

THE ASTROPHYSICAL JOURNAL

AUTHOR INDEX

PARTS 1 & 2, VOLUMES 477-479

1997 MARCH 1 TO APRIL 20

- ABRAMOWICZ, M. A. Accretion Disks around Kerr Black Holes: Vertical Equilibrium Revisited. *M. A. Abramowicz, A. Lanza, & M. J. Percival*. 479, 179 (1997)
- ADAMS, FRED C. Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams*. 477, 410 (1997)
- ADE, P. A. R. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mauskopf, D. E. Osgood, & A. E. Lange*. 479, 17 (1997)
- AFFLERBACH, A. Galactic Abundance Gradients from Infrared Fine-Structure Lines in Compact H II Regions. *A. Afflerbach, E. Churchwell, & M. W. Werner*. 478, 190 (1997)
- AJHAR, EDWARD A. Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the Hubble Space Telescope. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum*. 478, 49 (1997)
- AKERLOF, C. W. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- AKITA, K. Investigating the Nonthermal Velocity of Small GOES-Class Flares Observed by Yohkoh. *L. K. Harra-Murnion, K. Akita, & T. Watanabe*. 479, 464 (1997)
- ALBERGO, S. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- ALCOCK, C. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data. *C. Alcock, R. A. Allsman, D. Alves, T. S. Axelrod, D. P. Bennett, K. H. Cook, K. C. Freeman, K. Griest, J. Guern, M. J. Lehner, S. L. Marshall, H.-S. Park, S. Perlmutter, B. A. Peterson, M. R. Pratt, P. J. Quinn, A. W. Rodgers, C. W. Stubbs, & W. Sutherland*. 479, 119 (1997)
- ALDCROFT, THOMAS. The X-Ray Warm Absorber in NGC 3516. *Smita Mathur, Belinda J. Wilkes, & Thomas Aldcroft*. 478, 182 (1997)
- ALLAMANDOLA, LOUIS J. The 2140 cm^{-1} (4.673 Micron) Solid CO Band: The Case for Interstellar O_2 and N_2 and the Photochemistry of Nonpolar Interstellar Ice Analogs. *Jamie Elsila, Louis J. Allamandola, & Scott A. Sandford*. 479, 818 (1997)
- ALLEN, RONALD J. Spiral Density Wave Theory, Corotation Resonance, and the Velocity Field of NGC 4321. *Blaise Canzian & Ronald J. Allen*. 479, 723 (1997)
- ALLEN, S. W. The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer*. 479, L101 (1997)
- ALLOIN, DANIELLE. The Stellar Content of Giant H II Regions in NGC 7714. *Maria Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Diaz, & Elena Terlevich*. 478, 112 (1997)
- ALLSMAN, R. A. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- ALTEN, VICTORIA. New Herbig-Haro Flows in L1448 and L1455. *J. Bally, David Devine, Victoria Allen, & R. S. Sutherland*. 478, 603 (1997)
- ALTHAUS, L. G. Evolution of Helium White Dwarfs of Low and Intermediate Masses. *L. G. Althaus & O. G. Benvenuto*. 477, 313 (1997)
- ALVES, D. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- AMBRUSTER, CAROL W. The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak*. 479, 960 (1997)
- ANDERSON, CHRISTOPHER M. Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson*. 478, 395 (1997)
- ANDERSON, S. B. The Proper Motion and Parallax of PSR J0437-4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)
- ANGELINI, L. The Nature of the "6 Second" and Related X-Ray Pulsars: Evolutionary and Dynamical Considerations. *Pranab Ghosh, L. Angelini, & N. E. White*. 478, 713 (1997)
- ANTONUCCI, ROBERT. A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. *Henrique R. Schmitt, Anne L. Kinney, Thaisa Storchi-Bergmann, & Robert Antonucci*. 477, 623 (1997)
- Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette*. 479, 868 (1997)
- APARICIO, A. Model Color-Magnitude Diagrams for Hubble Space Telescope Observations of Local Group Dwarf Galaxies: Erratum. *A. Aparicio, C. Gallart, C. Choi, & G. Bertelli*. 479, L153 (1997) (Orig. paper in 469, L97, 254-G8 (1996))
- ARIMOTO, NOBUO. The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini*. 477, 128 (1997)
- ARLANDINI, CLAUDIO. Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini*. 478, 332 (1997)
- ARMSTRONG, J. T. See QUIRRENBACH, A., et al. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars.
- ARNETT, D. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell*. 478, L75 (1997)
- ARONS, JONATHAN. Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259-63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons*. 477, 439 (1997)
- Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein*. 478, 663 (1997)
- ARSENAULT, ROBIN. The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. *Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenault*. 478, 271 (1997)
- ASSENDORP, ROB. Cirrus Color Variations Due to Enhanced Radiation Fields. *Sean J. Carey, R. F. Shipman, F. O. Clark, & Rob Assendorp*. 479, 303 (1997)
- AUGUSTEIN, T. Discovery of a Bow Shock around Vela X-1: Erratum. *L. Kaper, J. Th. van Loon, T. Augusteijn, P. Goudfroot, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra*. 479, L153 (1997) (Orig. paper in 475, L37 (1997))
- AXELROD, T. S. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- AYRES, THOMAS R. Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres*. 478, 745 (1997)
- BABLER, B. L. See QUIRRENBACH, A., et al. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars.

- BACCIOTTI, F. Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet*. 478, 594 (1997)
- BAGNUOLO, WILLIAM G., JR. Photospheric Heating in Colliding-Wind Binaries. *Douglas R. Gies, William G. Bagnuolo, Jr., & Laura R. Penny*. 479, 408 (1997)
- BAHCALL, JOHN N. *Hubble Space Telescope* Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider*. 479, 642 (1997)
- BAILES, M. The Proper Motion and Parallax of PSR J0437-4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)
- BAILYN, CHARLES D. Optical Observations of GRO J1655-40 in Quiescence. I. A Precise Mass for the Black Hole Primary. *Jerome A. Orosz & Charles D. Bailyn*. 477, 876 (1997)
- An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655-40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock*. 478, L83 (1997)
- BAKER, JOANNE C. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- BALACHANDRAN, SUCHITRA. Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa*. 479, 776 (1997)
- BALICK, BRUCE. The Timescale Correlation Method: Distances to Planetary Nebulae with Halos. *Arsen R. Hajian, Adam Frank, Bruce Balick, & Yervant Terzian*. 477, 226 (1997)
- BALLY, J. New Herbig-Haro Flows in L1448 and L1455. *J. Bally, David Devine, Victoria Allen, & R. S. Sutherland*. 478, 603 (1997)
- BAND, D. L. See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- BANDYOPADHYAY, R. The Superluminous Source GRS 1915+105: A High Mass X-Ray Binary? *J. F. Mirabel, R. Bandyopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodriguez*. 477, L45 (1997)
- BANIA, T. M. Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark*. 479, 296 (1997)
- BARAT, C. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- BARAT, CLAUDE. The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotter*. 479, 458 (1997)
- BARBUY, B. The Near-Infrared Na I Doublet Feature in M Stars. *R. P. Schiavon, B. Barbuy, S. C. F. Rossi, & A. Milone*. 479, 902 (1997)
- BARLOW, M. J. Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego*. 478, 648 (1997)
- BARLOW, THOMAS A. High-Resolution Spectra of Intrinsic Absorption Lines in the Quasi-stellar Object UM 675. *Fred Hamann, Thomas A. Barlow, Vesa Junkkarinen, & E. M. Burbidge*. 478, 80 (1997)
- Time-Variable Intrinsic Absorption Lines in the Quasi-stellar Object Q2343+125. *Fred Hamann, Thomas A. Barlow, & Vesa Junkkarinen*. 478, 87 (1997)
- BARREIRO, R. B. Peaks in the Cosmic Microwave Background: Flat versus Open Models. *R. B. Barreiro, J. L. Sanz, E. Martínez-González, L. Cayón, & Joseph Silk*. 478, 1 (1997)
- BARRETT, J. W. The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett*. 478, 144 (1997)
- BARRIENTOS, L. FELIPE. Evolution of Cluster Ellipticals at $0.2 < z < 1.2$ from *Hubble Space Telescope* Imaging. *David Schade, L. Felipe Barrientos, & Omar López-Cruz*. 477, L17 (1997)
- BARTHELMY, S. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- BAUM, WILLIAM A. Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the *Hubble Space Telescope*. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum*. 478, 49 (1997)
- BAUTISTA, MANUEL A. Electron-Ion Recombination of Neutral Iron. *Sultana N. Nahar, Manuel A. Bautista, & Anil K. Pradhan*. 479, 497 (1997)
- BAYKAL, A. Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal*. 479, L47 (1997)
- BEAVER, E. A. The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons*. 477, 568 (1997)
- BECHTOLD, JILL. H α Imaging of the Candidate Protogalaxy MS 1512-cB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellingson*. 477, L29 (1997)
- Molecular Hydrogen Absorption in the $z = 1.97$ Damped Ly α Absorption System toward Quasi-stellar Object Q0013-004. *Jian Ge & Jill Bechtold*. 477, L73 (1997)
- BECKER, ROBERT H. The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. *Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand*. 479, L93 (1997)
- BECK-WINCHATZ, BERNHARD. The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson*. 477, 916 (1997)
- BEGELMAN, MITCHELL C. The 67 Hz Feature in the Black Hole Candidate GRS 1915+105 as a Possible "Diskoseismic" Mode. *Michael A. Nowak, Robert V. Wagoner, Mitchell C. Begelman, & Dana E. Lehr*. 477, L91 (1997)
- BEKKI, KENJI. Formation of Boxy and Disky Elliptical Galaxies in Early Dissipative Mergers. *Kenji Bekki & Yasuhiro Shiya*. 478, L17 (1997)
- BELLI, B. M. Evidence for the Galactic Origin of Gamma-Ray Bursts. *B. M. Belli*. 479, L31 (1997)
- BELLONI, T. An Unstable Central Disk in the Superluminous Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs*. 479, L145 (1997)
- BELLÓ RUBIO, L. R. Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Belló Rubio, B. Ruiz Cobo, & M. Collados*. 478, L45 (1997)
- BENENSOHN, J. S. Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benensohn, D. Q. Lamb, & R. E. Taam*. 478, 723 (1997)
- BENÍTEZ, N. Large-Scale QSO-Galaxy Correlations for Radio-loud and Optically Selected QSO Samples. *N. Benítez & E. Martínez-González*. 477, 27 (1997)
- BENNACEUR, D. Thermal Conduction by Electrons in Hot Dense Plasmas. *A. H. Khalafouji & D. Bennaceur*. 478, 326 (1997)
- BENNETT, D. P. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- BENVENUTO, O. G. Evolution of Helium White Dwarfs of Low and Intermediate Masses. *L. G. Althaus & O. G. Benvenuto*. 477, 313 (1997)
- BERTELLI, G. Model Color-Magnitude Diagrams for *Hubble Space Telescope* Observations of Local Group Dwarf Galaxies: Erratum. *A. Aparicio, C. Gallart, C. Choi, & G. Bertelli*. 479, L153 (1997) (Orig. paper in 469, L97, 254-G8 (1996))
- BERTIN, G. Self-regulated Accretion Disks. *G. Bertin*. 478, L71 (1997)
- BETLEM, H. The Detection of a Dust Trail in the Orbit of an Earth-threatening Long-Period Comet. *P. Jenniskens, H. Betlem, M. de Lignie, & M. Langbroek*. 479, 441 (1997)
- BETTENS, R. P. A. The Formation of Large Hydrocarbons and Carbon Clusters in Dense Interstellar Clouds. *R. P. A. Bettens & Eric Herbst*. 478, 585 (1997)
- BHARADWAJ, SOMNATH. Self-Similarity and the Pair Velocity Dispersion. *Somnath Bharadwaj*. 477, 1 (1997)
- BI, HONGGUANG. Evolution of Structure in the Intergalactic Medium and the Nature of the Ly α Forest. *HongGuang Bi & Arthur F. Davidsen*. 479, 523 (1997)
- BIERMANN, PETER L. Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu*. 477, 560 (1997)

- BILDSTEN, LARS. Thermonuclear Burning on the Accreting X-Ray Pulsar GRO J1744-28. *Lars Bildsten & Edward F. Brown*. 477, 897 (1997)
- A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince*. 479, 388 (1997)
- See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2.
- BILLER, S. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- BJORKMAN, J. E. Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman*. 477, 926 (1997)
- See QUIRRENBACH, A., et al. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars.
- BJORKMAN, K. S. Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman*. 477, 926 (1997)
- See QUIRRENBACH, A., et al. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars.
- BLADES, J. CHRIS. The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks*. 478, 530 (1997)
- Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego*. 478, 648 (1997)
- BLAES, OMER. Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Huri, Robert Antonucci, Kevin Hurley, & Alain Smette*. 479, 868 (1997)
- BLAKE, J. B. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3-70 MeV per Nucleon.
- BLANDFORD, R. D. Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford*. 479, L9 (1997)
- BLANDFORD, ROGER D. Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bottorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford*. 479, 200 (1997)
- BLAND-HAWTHORN, JONATHAN. Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn*. 479, L105 (1997)
- BLITZ, LEO. Synthesis Imaging of Dense Gas in Nearby Galaxies. *Tamara T. Helfer & Leo Blitz*. 478, 162 (1997)
- Dense Gas in the Milky Way. *Tamara T. Helfer & Leo Blitz*. 478, 233 (1997)
- BLONDIN, JOHN M. X-Rays from the Impact of SN 1987A with Its Circumstellar Ring. *Kazimierz J. Borkowski, John M. Blondin, & Richard McCray*. 477, 281 (1997)
- Hydrodynamical Models of Line-driven Accretion Disk Winds. *Nicolas Antonio Pereyra, Timothy R. Kallman, & John M. Blondin*. 477, 368 (1997)
- BÖHM-VITENSE, ERIKA. The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson*. 477, 916 (1997)
- BÖHRINGER, H. The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer*. 479, L101 (1997)
- BOER, M. Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer*. 479, L113 (1997)
- BOESGAARD, ANN MERCHANT. The ^9Be Abundances of α Centauri A and B and the Sun: Implications for Stellar Evolution and Mixing. *Jeremy R. King, Constantine P. Deliyannis, & Ann Merchant Boesgaard*. 478, 778 (1997)
- BOGDAN, T. J. A Comment on the Relationship between the Modal and Time-Distance Formulations of Local Helioseismology. *T. J. Bogdan*. 477, 475 (1997)
- BOHLIN, RALPH C. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher*. 478, 516 (1997)
- BOLATTO, ALBERTO D. A 2000 M_{\odot} Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto*. 478, 614 (1997)
- BOLTE, MICHAEL. Composition Mixing during Blue Straggler Formation and Evolution. *Eric L. Sandquist, Michael Bolte, & Lars Hernquist*. 477, 335 (1997)
- BONO, GIUSEPPE. Second Overtone Pulsators among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf*. 477, 346 (1997)
- Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi*. 479, 279 (1997)
- BONOMETTO, SILVIO A. Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack*. 479, 580 (1997)
- BORGANI, STEFANO. Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack*. 479, 580 (1997)
- BORKOWSKI, KAZIMIERZ J. X-Rays from the Impact of SN 1987A with Its Circumstellar Ring. *Kazimierz J. Borkowski, John M. Blondin, & Richard McCray*. 477, 281 (1997)
- X-Ray Emission from Dust in Hot Plasmas. *Kazimierz J. Borkowski & Andrew E. Szymkowiak*. 477, L49 (1997)
- BOROSON, BRAM. An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren*. 478, 638 (1997)
- BOSS, ALAN P. Evolution of the Solar Nebula. III. Protoplanetary Disks Undergoing Mass Accretion: Erratum. *Alan P. Boss*. 478, 828 (1997) (Orig. paper in 469, 906, 253-A4 (1996))
- BOTHUN, G. D. Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher*. 478, 516 (1997)
- BOTTORFF, MARK. Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bottorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford*. 479, 200 (1997)
- BOWEN, DAVID V. The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks*. 478, 530 (1997)
- BOWEN, T. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- BOWYER, STUART. EUV Observations of EX Hydrae: 10^7 K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko*. 477, 390 (1997)
- BOYLE, P. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- BRADT, HALE. Rossi X-Ray Timing Explorer Discovery of Coherent Millisecond Pulsations during an X-Ray Burst from KS 1731-260. *Donald A. Smith, Edward H. Morgan, & Hale Bradt*. 479, L137 (1997)
- BRAGE, TOMAS. Transition Rates of the Intercombination UV0.01 Multiplet in N II. *Tomas Brage, Alan Hibbert, & David S. Leckrone*. 478, 423 (1997)
- BRANDENBURG, AXEL. Current Sheet Formation in the Interstellar Medium. *Ellen G. Zweibel & Axel Brandenburg*. 478, 563 (1997)
- BRAUN, R. Detection of Compact Nuclear X-Ray Emission in NGC 4736. *W. Cui, D. Feldkhun, & R. Braun*. 477, 693 (1997)
- BREMER, MALCOLM N. See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.

- BRESOLIN, FABIO. See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- BRICKHOUSE, N. S. Effects of High Ion Temperatures on Spectral Line Diagnostics in the Source Region of the High-Speed Solar Wind. *N. S. Brickhouse & R. Esser*. 479, 470 (1997)
- BRIGGS, M. S. See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- BRINKMANN, W. *ASCA* and *ROSAT* X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali*. 478, 492 (1997)
- BRINKS, ELIAS. The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks*. 478, 530 (1997)
- BRISKEN, WALTER F. New Data and Models of Running Penumbra Waves in Sunspots. *Walter F. Briskeen & Harold Zirin*. 478, 814 (1997)
- BROADHURST, TOM. Resolving, Redshifted Molecular Absorption toward the Gravitational Lens PKS 1830-211. *Brenda Frye, William J. Welch, & Tom Broadhurst*. 478, L25 (1997)
- BROEILS, ADRIK H. NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakar, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils*. 479, 702 (1997)
- BROSIOUS, JEFFREY W. The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with *Yohkoh/SXT* and in the Extreme-Ultraviolet with SERTS. *Jeffrey W. Brosious, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi*. 477, 969 (1997)
- BROWN, EDWARD F. Thermomolecular Burning on the Accreting X-Ray Pulsar GRO J1744-28. *Lars Bildsten & Edward F. Brown*. 477, 897 (1997)
- BUCHMANN, L. New Stellar Reaction Rate for $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$. *L. Buchmann*. 479, L153 (1997) (Orig. paper in 468, L127, 236-B13 (1996))
- BUCK, CHARLES. The Ellipticity and Orientation of Clusters of Galaxies in *N*-Body Experiments. *Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker*. 479, 632 (1997)
- BUCKLEY, J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- BUTCHER, HARVEY. A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher*. 479, 70 (1997)
- CACCIA, Z. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- CAILLAULT, JEAN-PIERRE. Periodic X-Ray Emission from the O7 V Star θ^1 Orionis C. *Marc Gagné, Jean-Pierre Caillaud, John R. Stauffer, & Jeffrey L. Linsky*. 478, L87 (1997)
- CALAMAI, GIOVANNI. High-Resolution Infrared Observations of GGD 27. *Bringfried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage*. 479, 339 (1997)
- CALOI, V. The Universe and Globular Clusters: An Age Conflict? *F. D'Antona, V. Caloi, & I. Mazzitelli*. 477, 519 (1997)
- CANUTO, V. M. Sub-Grid Scale Modeling: Correct Models and Others. *V. M. Canuto*. 478, 322 (1997)
- CANZIAN, BLAISE. Spiral Density Wave Theory, Corotation Resonance, and the Velocity Field of NGC 4321. *Blaise Canzian & Ronald J. Allen*. 479, 723 (1997)
- CAPPI, M. *ASCA* and *ROSAT* X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali*. 478, 492 (1997)
- CAPUTO, FILIPPINA. Second Overtone Pulsators among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf*. 477, 346 (1997)
- Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi*. 479, 279 (1997)
- CARDELLI, JASON A. The Abundance of Interstellar Krypton. *Jason A. Cardelli & David M. Meyer*. 477, L57 (1997)
- CAREY, SEAN J. Cirrus Color Variations Due to Enhanced Radiation Fields. *Sean J. Carey, R. F. Shipman, F. O. Clark, & Rob Assendorp*. 479, 303 (1997)
- CARGILL, P. J. A Nanoflare Explanation for the Heating of Coronal Loops Observed by *Yohkoh*. *P. J. Cargill & J. A. Klimchuk*. 478, 799 (1997)
- CARLBERG, R. G. The Average Mass and Light Profiles of Galaxy Clusters. *R. G. Carlberg, H. K. C. Yee, & E. Ellingson*. 478, 462 (1997)
- The Real Space and Redshift Space Correlation Functions at Redshift $z = 1/3$. *C. W. Shepherd, R. G. Carlberg, H. K. C. Yee, & E. Ellingson*. 479, 82 (1997)
- Redshift Evolution of Galaxy Cluster Densities. *R. G. Carlberg, S. L. Morris, H. K. C. Yee, & E. Ellingson*. 479, L19 (1997)
- CARONE, T. E. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- CARPENTER, KENNETH. The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson*. 477, 916 (1997)
- CARPENTER, KENNETH G. GHRs Observations of Cool, Low-Gravity Stars. III. Plasma Flows and Turbulence in the Outer Atmosphere of α Orionis (M2 Iab). *Kenneth G. Carpenter & Richard D. Robinson*. 479, 970 (1997)
- CARRASCO, J. J. Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford*. 479, L9 (1997)
- CARTER-LEWIS, D. A. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- CASSELLA, ANGELO. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker*. 477, 848 (1997)
- CASSEN, PATRICK. Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen*. 477, 398 (1997)
- CASSISI, SANTI. Second Overtone Pulsators among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf*. 477, 346 (1997)

- Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi*. 479, 279 (1997)
- CASTELLANI, VITTORIO. Second Overtone Pulsators among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf*. 477, 346 (1997)
- Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi*. 479, 279 (1997)
- CASTOR, J. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell*. 478, L75 (1997)
- CATANESE, M. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- CATELAN, M. Color-Magnitude Diagrams of Merged Globular Clusters: Metallicity Effects. *M. Catelan*. 478, L99 (1997)
- CRAWLEY, M. F. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- CAYÓN, L. Peaks in the Cosmic Microwave Background: Flat versus Open Models. *R. B. Barreiro, J. L. Sanz, E. Martínez-González, L. Cayón, & Joseph Silk*. 478, 1 (1997)
- CEN, RENVUE. Testing Cosmological Models with a Ly α Forest Statistic: The High End of the Optical Depth Distribution. *Renyue Cen*. 479, L85 (1997)
- CHABRIER, GILLES. Cooling Neutron Stars with Accreted Envelopes. *Gilles Chabrier, Alexander Y. Potekhin, & Dmitry G. Yakovlev*. 477, L99 (1997)
- CHAKRABARTY, DEEPTO. A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince*. 479, 388 (1997)
- See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2.
- CHAMBERLIN, RICHARD A. Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark*. 479, 296 (1997)
- CHANG, H.-K. RXTE Observation of PSR B1951+32. *H.-K. Chang & C. Ho*. 479, L125 (1997)
- CHARLES, P. A. The Superluminal Source GRS 1915+105: A High Mass X-Ray Binary? *I. F. Mirabel, R. Bandopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodriguez*. 477, L45 (1997)
- CHAU, H. F. On the Rotation and Magnetic Field Evolution of Superconducting Strange Stars. *H. F. Chau*. 479, 886 (1997)
- CHAUVIN, J. C. Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong*. 477, 509 (1997)
- CHE, H. Test for Cosmological Time Dilation in Long Gamma-Ray Bursts. *H. Che, Y. Yang, M. Wu, & T. P. Li*. 477, L69 (1997)
- CHEDIA, O. Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shpakidze*. 479, 313 (1997)
- CHEN, C.-X. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray implications. *C.-X. Chen, S. Albero, Z. Caccia, S. Costa, H. J. Crawford, M. Cronqvist, J. Engelage, L. Greiner, T. G. Guzik, A. Insolia, C. N. Knott, P. J. Lindstrom, M. McMahon, J. W. Mitchell, R. Potenza, G. V. Russo, A. Soutoul, O. Testard, C. E. Tull, C. Tuvé, C. J. Waddington, W. R. Webber, & J. P. Wefel*. 479, 504 (1997)
- CHEN, H. Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes*. 478, 295 (1997)
- CHEN, XINGMING. The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingming Chen, Jean H. Swank, & Ronald E. Taam*. 477, L41 (1997)
- CHEN, YANG. The Conelike H α Nebula in NGC 4945: A Galactic Superwind Bow Shock? *Yang Chen & Jie-Hao Huang*. 479, L23 (1997)
- CHENG, E. S. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- CHENG, K.-P. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- CHERNIN, L. M. BIMA Observations of the VLA 1623 Molecular Outflow. *T. Yu & L. M. Chernin*. 479, L63 (1997)
- CHIAPPINI, C. The Chemical Evolution of the Galaxy: The Two-Infall Model. *C. Chiappini, F. Matteucci, & R. Gratton*. 477, 765 (1997)
- CHICK, KENNETH M. Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen*. 477, 398 (1997)
- CHIEFFI, ALESSANDRO. Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini*. 478, 332 (1997)
- CHIN, CHAO-WEN. The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin*. 478, L103 (1997)
- CHIUDELI, C. Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet*. 478, 594 (1997)
- CHO, KYEONGJAE. Astrophysical Extended X-Ray Absorption Fine-Structure Analysis. *Jonathan W. Woo, Robert C. Forrey, & Kyeongjae Cho*. 477, 235 (1997)
- CHOI, MINHO. Observations of Molecular Clouds in the HH 1-2 Region. *Minho Choi & Shudong Zhou*. 477, 754 (1997)
- CHOISI, C. Model Color-Magnitude Diagrams for Hubble Space Telescope Observations of Local Group Dwarf Galaxies: Erratum. *A. Aparicio, C. Gallari, C. Choisi, & G. Bertelli*. 479, L153 (1997) (Orig. paper in 469, L97, 254-G8 (1996))
- CHRISTIAN, D. J. X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smaile, J. H. Swank, & P. J. Serlemitsos*. 477, 424 (1997)
- CHU, YOU-HUA. An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren*. 478, 638 (1997)
- CHURCH, S. E. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mauskopf, D. E. Osgood, & A. E. Lange*. 479, 17 (1997)
- CHURCHWELL, E. Galactic Abundance Gradients from Infrared Fine-Structure Lines in Compact H II Regions. *A. Afferbach, E. Churchwell, & M. W. Werner*. 478, 190 (1997)
- Origin of the Mass in Massive Star Outflows. *E. Churchwell*. 479, L59 (1997)
- CIARDULLO, ROBIN. Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby*. 479, 231 (1997)
- CLAMPIN, MARK. The Structure of the Super-Star Clusters in NGC 1569 from Hubble Space Telescope WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi*. 479, L27 (1997)
- CLARK, F. O. Cirrus Color Variations Due to Enhanced Radiation Fields. *Sean J. Carey, R. F. Shipman, F. O. Clark, & Rob Assendorp*. 479, 303 (1997)
- CLAVEL, J. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- CLAYTON, GEOFFREY C. Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson*. 478, 395 (1997)
- CLEMENS, DAN P. H $_2$ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos*. 479, L71 (1997)
- CLINE, T. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer*. 479, L113 (1997)
- CLOSE, LAIRD M. Adaptive Optics 0.2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves*. 478, 766 (1997)
- COC, ALAIN. New Results on ^{26}Al Production in Classical Novae. *Jordi José, Margarita Hernanz, & Alain Coc*. 479, L55 (1997)

- COCHRAN, WILLIAM D. Testing the Planet Hypothesis: A Search for Variability in the Spectral-Line Shapes of 51 Pegasi. *Artie P. Hatzes, William D. Cochran, & Christopher M. Johns-Krull*. 478, 374 (1997)
- COHEN, ROSS D. The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons*. 477, 568 (1997)
- COLAFRANCESCO, S. Intracluster Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio*. 479, 1 (1997)
- COLGAN, SEAN W. J. Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. *Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson*. 479, 332 (1997)
- COLLADOS, M. Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados*. 478, L45 (1997)
- COLLINS, C. A. On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol*. 479, L117 (1997)
- COLLINS, T. J. B. The Effects of Radial Viscous Forces on the Structure of Accretion Disk Boundary Layers. *T. J. B. Collins*. 478, 417 (1997)
- COMASTRI, A. ASCA and ROSAT X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali*. 478, 492 (1997)
- CONNAUGHTON, V. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts. *V. Connaughton, C. W. Akerlof, S. Barthelmy, S. Biller, P. Boyle, J. Buckley, D. A. Carter-Lewis, M. Catanese, M. F. Cawley, T. Cline, D. J. Fegan, J. Finley, G. J. Fishman, J. Gaidos, N. Gehrels, A. M. Hillas, C. Kouveliotou, F. Krennrich, R. C. Lamb, R. Lessard, J. McEnery, C. Meegan, G. Mohanty, N. A. Porter, J. Quinn, A. Rodgers, H. J. Rose, F. Samuelson, M. S. Schubnell, G. Sembroski, R. Srinivasan, T. C. Weekes, C. Wilson, & J. Zweerink*. 479, 859 (1997)
- COOK, K. H. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- COOK, KEM H. See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the *Hubble Space Telescope*: Erratum.
- COPI, CRAIG J. On the Significance of Population II ^6Li Abundances. *Martin Lemoine, David N. Schramm, James W. Truran, & Craig J. Copi*. 478, 554 (1997)
- CORBEL, S. The Distance of the Soft Gamma Repeater SGR 1806-20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay*. 478, 624 (1997)
- CORBELLI, EDVIGE. A Warped Disk Model for M33 and the 21 Centimeter Line Width in Spiral Galaxies. *Edvige Corbelli & Stephen E. Schneider*. 479, 244 (1997)
- CORNETT, ROBERT H. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- COSTA, S. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- COTTER, GARRET. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- COTTINGHAM, D. A. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- COUCH, WARRICK J. A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher*. 479, 70 (1997)
- CRAWFORD, C. S. The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer*. 479, L101 (1997)
- CRAWFORD, H. J. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- CRAWFORD, I. A. Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego*. 478, 648 (1997)
- CREECH-EAKMAN, MICHELLE J. Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. *Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe*. 477, 825 (1997)
- CRENSHAW, D. M. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- CRENSHAW, D. MICHAEL. Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin*. 477, L53 (1997)
- CRIDER, A. Physical Model of Gamma-Ray Burst Spectral Evolution. *Edison Liang, Masaaki Kusunose, I. A. Smith, & A. Crider*. 479, L35 (1997)
- Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts. *A. Crider, E. P. Liang, I. A. Smith, R. D. Preece, M. S. Briggs, G. N. Pendleton, W. S. Paciesas, D. L. Band, & J. L. Matteson*. 479, L39 (1997)
- CRONE, MARY M. Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn*. 477, L5 (1997)
- CRONQVIST, M. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- CRUTCHER, R. M. BIMA ^{13}CO Observations of W3. *D. A. Roberts, R. M. Crutcher, & T. H. Troland*. 479, 318 (1997)
- CUI, W. Detection of Compact Nuclear X-Ray Emission in NGC 4736. *W. Cui, D. Feldkhun, & R. Braun*. 477, 693 (1997)
- The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs*. 477, L95 (1997)
- CUNHA, KATIA. Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts*. 478, 211 (1997)
- DA COSTA, LUIZ N. The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner*. 477, L1 (1997)
- DAI, HONGYUE. Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers*. 479, 547 (1997)
- DALGARNO, A. Stimulated Radiative Association of Li and H in the Early Universe. *P. C. Stancil & A. Dalgarno*. 479, 543 (1997)
- DAME, T. M. The Distance of the Soft Gamma Repeater SGR 1806-20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay*. 478, 624 (1997)
- D'ANTONA, F. The Universe and Globular Clusters: An Age Conflict? *F. D'Antona, V. Caloi, & I. Mazzitelli*. 477, 519 (1997)
- DAR, ARNON. Hadronic Production of TeV Gamma-Ray Flares from Blazars. *Arnon Dar & Ari Laor*. 478, L5 (1997)
- DAVÉ, ROMÉEL. Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Rompel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz*. 477, 21 (1997)
- DAVIDSEN, ARTHUR F. Evolution of Structure in the Intergalactic Medium and the Nature of the Ly α Forest. *HongGuang Bi & Arthur F. Davidsen*. 479, 523 (1997)
- DAVILA, JOSEPH M. The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with *Yohkoh*/SXT and in the Extreme-Ultraviolet with SERTS. *Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi*. 477, 969 (1997)
- DAVIS, MARC. A Reanalysis of Small-Scale Velocity Dispersion in the CfA1 Survey. *Rachel S. Somerville, Marc Davis, & Joel R. Primack*. 479, 616 (1997)
- DEAL, K. J. Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel*. 477, L85 (1997)
- DE BLOK, W. J. G. Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok*. 477, L79 (1997)

- DEBRUNNER, H. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event. *H. Debrunner, J. A. Lockwood, C. Barat, R. Büttikofer, J. P. Dezalay, E. Flückiger, A. Kuznetsov, J. M. Ryan, R. Sunyaev, O. V. Terekhov, G. Trotter, & N. Vilmer*. 479, 997 (1997)
- DEGL'INNOCENTI, S. The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss*. 479, 665 (1997)
- DEGUCHI, SHUJI. SiO Maser Sources toward the Sagittarius B2 Molecular Cloud. *Shigetomo Shiki, Masatoshi Ohishi, & Shuji Deguchi*. 478, 206 (1997)
- DEKEL, AVISHAI. Large-Scale Power Spectrum from Peculiar Velocities. *Tsafrir Kolatt & Avishai Dekel*. 479, 592 (1997)
- DE KOTER, ALEX. On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny*. 477, 792 (1997)
- DE LIGNIE, M. The Detection of a Dust Trail in the Orbit of an Earth-threatening Long-Period Comet. *P. Jenniskens, H. Betlem, M. de Lignie, & M. Langbroek*. 479, 441 (1997)
- DELIYANNIS, CONSTANTINE P. The ^9Be Abundances of α Centauri A and B and the Sun: Implications for Stellar Evolution and Mixing. *Jeremy R. King, Constantine P. Deliyannis, & Ann Merchant Boesgaard*. 478, 778 (1997)
- DE MARCHI, GUIDO. The Structure of the Super-Star Clusters in NGC 1569 from *Hubble Space Telescope* WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi*. 479, L27 (1997)
- DEMPSEY, ROBERT C. The ROSAT All-Sky Survey of Active Binary Coronal. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. *Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmitt*. 478, 358 (1997)
- DEVINE, DAVID. New Herbig-Haro Flows in L1448 and L1455. *J. Bally, David Devine, Victoria Allen, & R. S. Sutherland*. 478, 603 (1997)
- DEVRIES, C. H. Hydrogenation of Interstellar Molecules: A Survey for Methylenimine (CH_2NH). *J. E. Dickens, W. M. Irvine, C. H. DeVries, & M. Ohishi*. 479, 307 (1997)
- DEZALAY, J. P. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- DÍAZ, ANGELES. The Stellar Content of Giant H II Regions in NGC 7714. *María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich*. 478, 112 (1997)
- DICKENS, J. E. Hydrogenation of Interstellar Molecules: A Survey for Methylenimine (CH_2NH). *J. E. Dickens, W. M. Irvine, C. H. DeVries, & M. Ohishi*. 479, 307 (1997)
- DIEGO, F. Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego*. 478, 648 (1997)
- DIEHL, R. Constraints from ^{26}Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann*. 479, 760 (1997)
- DIENER, P. Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick*. 479, 164 (1997)
- DINGE, D. A Two-dimensional Computational Comparison of the Dynamic Interactions of Critical and Subcritical Mass Proto-Globular Cluster Clouds with the Protogalactic Background. *D. Dinge*. 479, 792 (1997)
- DOBRYZCKI, ADAM. SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? *Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen*. 479, 678 (1997)
- DOKE, T. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- DORBAND, J. E. A Maximum Entropy Method with a Priori Maximum Likelihood Constraints. *R. G. Lyon, J. M. Hollis, & J. E. Dorbant*. 478, 658 (1997)
- DOSCHEK, G. A. Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle*. 477, L119 (1997)
- DOTANI, T. Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821–24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni*. 477, L37 (1997)
- DOWNES, D. The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett*. 478, 144 (1997)
- DRAKE, JEREMY J. Stellar Coronal Abundances. V. Evidence for the First Ionization Potential Effect in α Centauri. *Jeremy J. Drake, J. Martin Laming, & Kenneth G. Widing*. 478, 403 (1997)
- DRESSLER, ALAN. A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Bucher*. 479, 70 (1997)
- DUNSBY, P. K. S. Newtonian Evolution of the Weyl Tensor. *G. F. R. Ellis & P. K. S. Dunsby*. 479, 97 (1997)
- DURAND, DANIEL. The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. *Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenault*. 478, 271 (1997)
- DUROUCHOUX, P. The Distance of the Soft Gamma Repeater SGR 1806–20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay*. 478, 624 (1997)
- DUVALL, T. L., JR. Restoration of Long-Exposure Full-Disk Solar Intensity Images. *C. G. Toner, S. M. Jefferies, & T. L. Duvall, Jr.* 478, 817 (1997)
- EALLES, STEVE. See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- EBELING, H. The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner*. 477, 79 (1997)
- The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer*. 479, L101 (1997)
- EBELING, HARALD. The Environmental Dependence of Brightest Cluster Galaxies: Implications for Large-Scale Flows. *Michael J. Hudson & Harald Ebeling*. 479, 621 (1997)
- EBISAWA, K. See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655–40 during an Outburst.
- EDGE, A. C. The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer*. 479, L101 (1997)
- EDGE, ALASTAIR. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- EHARA, M. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- EIKENBERRY, S. S. High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleditch, J. Kristian, & C. R. Pennypacker*. 477, 465 (1997)
- ELIAS, N. M., II. See QUIRRENBACH, A., et al. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars.
- ELITZUR, MOSHE. On Protostellar Disks in Herbig Ae/Be Stars: Erratum. *Anatoly Miroshnichenko, Željko Ivezić, & Moshe Elitzur*. 479, L153 (1997) (Orig. paper in 475, L41 (1997))
- ELLINGSON, E. H α Imaging of the Candidate Protogalaxy MS 1512–cB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellingson*. 477, L29 (1997)
- The Average Mass and Light Profiles of Galaxy Clusters. *R. G. Carlberg, H. K. C. Yee, & E. Ellingson*. 478, 462 (1997)
- The Real Space and Redshift Space Correlation Functions at Redshift $z = 1/3$. *C. W. Shepherd, R. G. Carlberg, H. K. C. Yee, & E. Ellingson*. 479, 82 (1997)
- Redshift Evolution of Galaxy Cluster Densities. *R. G. Carlberg, S. L. Morris, H. K. C. Yee, & E. Ellingson*. 479, L19 (1997)
- ELLIS, G. F. R. Newtonian Evolution of the Weyl Tensor. *G. F. R. Ellis & P. K. S. Dunsby*. 479, 97 (1997)

- ELLIS, RICHARD S. A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher.* 479, 70 (1997)
- ELMEGREEN, BRUCE G. Intercloud Structure in a Turbulent Fractal Interstellar Medium. *Bruce G. Elmegreen.* 477, 196 (1997)
- ELSILA, JAMIE. The 2140 cm^{-1} (4.673 Micron) Solid CO Band: The Case for Interstellar O_2 and N_2 and the Photochemistry of Nonpolar Interstellar Ice Analogs. *Jamie Elsila, Louis J. Allamandola, & Scott A. Sandford.* 479, 818 (1997)
- ELSTON, RICHARD. $\text{H}\alpha$ Imaging of the Candidate Protogalaxy MS 1512-CB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellington.* 477, L29 (1997)
- ELVIS, M. *ASCA* and *ROSAT* X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali.* 478, 492 (1997)
- ELVIS, MARTIN. The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell.* 477, 93 (1997)
- ENDEAN, GEOFFREY. Cosmology in Conformally Flat Spacetime. *Geoffrey Endean.* 479, 40 (1997)
- ENDO, Y. Laboratory Detection of the C_2N Radical by Fourier-Transform Microwave Spectroscopy. *Y. Kasai, Y. Sumiyoshi, Y. Endo, & K. Kawaguchi.* 477, L65 (1997)
- ENGELAGE, J. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- ENGELS, DIETER. SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? *Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen.* 479, 678 (1997)
- ENSSLIN, TORSTEN A. Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu.* 477, 560 (1997)
- EPSTEIN, RICHARD I. Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein.* 478, L91 (1997)
- ESSER, R. Effects of High Ion Temperatures on Spectral Line Diagnostics in the Source Region of the High-Speed Solar Wind. *N. S. Brickhouse & R. Esser.* 479, 470 (1997)
- EVERETT, MARK E. Near-Infrared Spectrophotometry of HH 7-11. *Mark E. Everett.* 478, 246 (1997)
- FABBIANO, G. *ROSAT* HRI Observations of NGC 4038/4039, "The Antennae" Galaxies. *G. Fabbiano, François Schweizer, & G. Mackie.* 478, 542 (1997)
- FABER, S. M. See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems.
- FABIAN, A. C. The *ROSAT* Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer.* 479, L101 (1997)
- FABRICANT, DANIEL. Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from *Hubble Space Telescope* Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)
- FALCKE, HEINO. Accretion Disk Evolution with Wind Infall. I. General Solution and Application to Sagittarius A*. *Heino Falcke & Fulvio Melia.* 479, 740 (1997)
- FALCO, EMILIO E. SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? *Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen.* 479, 678 (1997)
- FAN, J. H. The Relation between Gamma-Ray and Near-Infrared Radiation in Gamma-Ray-loud Blazars. *G. Z. Xie, Y. H. Zhang, & J. H. Fan.* 477, 114 (1997)
- FAZIO, G. G. High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middledich, J. Kristian, & C. R. Pennypacker.* 477, 465 (1997)
- FEDERMAN, S. R. Relative Band Oscillator Strengths for Carbon Monoxide: A $^1\Pi-X^1\Sigma^+$ Transitions. *S. R. Federman, K. L. Menningen, Wei Lee, & J. B. Stoll.* 477, L61 (1997)
- FEGAN, D. J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- FEKEL, FRANCIS C. The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak.* 479, 960 (1997)
- FELDKHUN, D. Detection of Compact Nuclear X-Ray Emission in NGC 4736. *W. Cui, D. Feldkhun, & R. Braun.* 477, 693 (1997)
- FELDMAN, U. *YOHKOH* Observations as a Means of Checking S, Ca, and Fe Coronal Abundances and He-like Ionization Fractions. *K. J. H. Phillips & U. Feldman.* 477, 502 (1997)
- FELDMEIER, JOHN J. Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)
- FELDT, MARKUS. High-Resolution Infrared Observations of GGD 27. *Bringfried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage.* 479, 339 (1997)
- FERGUSON, JASON W. Accurate Hydrogen Spectral Simulations with a Compact Model Atom. *Jason W. Ferguson & Gary J. Ferland.* 479, 363 (1997)
- FERLAND, G. J. Grains in Ionized Nebulae. II. Heavy-Element Depletion. *J. B. Kingdon & G. J. Ferland.* 477, 732 (1997)
- FERLAND, GARY J. Accurate Hydrogen Spectral Simulations with a Compact Model Atom. *Jason W. Ferguson & Gary J. Ferland.* 479, 363 (1997)
- FERRARA, ANDREA. The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks.* 478, 530 (1997)
- FERRARESE, LAURA. See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. See Kelson, Daniel D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the *Hubble Space Telescope*: Erratum.
- FESSEN, ROBERT A. Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin.* 477, L53 (1997)
- FICHTNER, HORST. The Influence of Pickup, Anomalous, and Galactic Cosmic-Ray Protons on the Structure of the Heliospheric Shock: A Self-consistent Approach. *Jakobus A. le Roux & Horst Fichtner.* 477, L115 (1997)
- FINGER, MARK H. A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince.* 479, 388 (1997)
- See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2.
- FINLEY, J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- FIORIO, FABRIZIO. The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell.* 477, 93 (1997)
- FISCHER, M. L. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Maukopf, D. E. Osgood, & A. E. Lange.* 479, 17 (1997)
- FISHMAN, G. Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer.* 479, L113 (1997)
- FISHMAN, G. J. See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- FIXSEN, D. J. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.

- FLEMING, THOMAS A. The ROSAT All-Sky Survey of Active Binary Coroneae. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmitt. 478, 358 (1997)
- FLÜCKIGER, E. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- FONT, J. A. Morphology and Dynamics of Relativistic Jets. J. M^a. Martí, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina. 479, 151 (1997)
- FORD, HOLLAND. See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- FORD, HOLLAND C. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- FORREY, ROBERT C. Astrophysical Extended X-Ray Absorption Fine-Structure Analysis. Jonathan W. Woo, Robert C. Forrey, & Kyeongjae Cho. 477, 235 (1997)
- FOSTER, R. S. See TAVANI, M., et al. Discovery of a Non-blazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04.
- FRANK, ADAM. The Timescale Correlation Method: Distances to Planetary Nebulae with Halos. Arsen R. Hajian, Adam Frank, Bruce Balick, & Yervant Terzian. 477, 226 (1997)
- FRANSSON, CLAES. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker. 477, 848 (1997)
- FRANX, MARIJN. Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant. 478, L13 (1997)
- FREEDMAN, WENDY F. See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- FREEDMAN, WENDY L. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the Hubble Space Telescope. Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum. 478, 49 (1997)
- FREEMAN, K. C. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- FRENK, CARLOS. More Satellites of Spiral Galaxies. Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White. 478, 39 (1997)
- FRENK, CARLOS S. Anisotropies in the Distribution of Satellite Galaxies. Dennis Zaritsky, Rodney Smith, Carlos S. Frenk, & Simon D. M. White. 478, L53 (1997)
- FREUDLING, WOLFRAM. The Tully-Fisher Relation and H_0 . Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner. 477, L1 (1997)
- FROGEL, JAY A. Integrated Near-Infrared Colors of Star Clusters: Analysis of the Stochastic Effects on the Initial Mass Function. João F. C. Santos, Jr., & Jay A. Frogel. 479, 764 (1997)
- FROLOV, V. P. Relativistic Tidal Interaction of Stars with a Rotating Black Hole. P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick. 479, 164 (1997)
- FRYE, BRENDA. Resolving Redshifted Molecular Absorption toward the Gravitational Lens PKS 1830-211. Brenda Frye, William J. Welch, & Tom Broadhurst. 478, L25 (1997)
- FRYXELL, B. A. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell. 478, L75 (1997)
- FUENTE, A. Detection of CO⁺ toward the Reflection Nebula NGC 7023. A. Fuente & J. Martín-Pintado. 477, L107 (1997)
- FUKUE, JUN. Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. Masayuki Umemura, Jun Fukue, & Shin Mineshige. 479, L97 (1997)
- FUKUSHIGE, TOSHIYUKI. On the Origin of Cusps in Dark Matter Halos. Toshiyuki Fukushige & Junichiro Makino. 477, L9 (1997)
- GAENSLER, B. M. The Asymmetric Radio Remnant of SN 1987A. B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven. 479, 845 (1997)
- GAGNÉ, MARC. Periodic X-Ray Emission from the O7 V Star θ^1 Orionis C. Marc Gagné, Jean-Pierre Caillault, John R. Stauffer, & Jeffrey L. Linsky. 478, L87 (1997)
- GAIDOS, J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- GAIZAUSKAS, V. Formation of a Solar Filament Channel. V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs. 479, 448 (1997)
- GALLART, C. Model Color-Magnitude Diagrams for Hubble Space Telescope Observations of Local Group Dwarf Galaxies: Erratum. A. Aparicio, C. Gallart, C. Choi, & G. Bertelli. 479, L153 (1997) (Orig. paper in 469, L97, 254-G8 (1996))
- GALLEGO, JESÚS. On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth. 478, L49 (1997)
- See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems.
- GALLI, DANIELE. ³He in Planetary Nebulae: A Challenge to Stellar Evolution Models. Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla. 477, 218 (1997)
- GALLINO, ROBERTO. Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini. 478, 332 (1997)
- GARCIA, MICHAEL R. Advection-dominated Accretion and Black Hole Event Horizons. Ramesh Narayan, Michael R. Garcia, & Jeffrey E. McClintock. 478, L79 (1997)
- GARCÍA-VARGAS, MARÍA LUISA. The Stellar Content of Giant H II Regions in NGC 7714. María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Diaz, & Elena Terlevich. 478, 112 (1997)
- GARY, DALE E. Nonthermal Radio Emission from Solar Soft X-Ray Transient Brightenings. Dale E. Gary, Michael D. Harri, & Toshifumi Shimizu. 477, 958 (1997)
- GAUCHEREL, CÉDRIC. Stokes's Theorem Applied to Microlensing of Finite Sources. Andrew Gould & Cédric Gaucherel. 477, 580 (1997)
- GAUDI, B. SCOTT. Satellite Parallaxes of Lensing Events toward the Galactic Bulge. B. Scott Gaudi & Andrew Gould. 477, 152 (1997)
- GE, JIAN. Molecular Hydrogen Absorption in the $z = 1.97$ Damped Ly α Absorption System toward Quasi-stellar Object Q0013-004. Jian Ge & Jill Bechtold. 477, L73 (1997)
- GEHALLE, T. R. Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens. 479, 839 (1997)
- GEHRELS, N. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- GEHRZ, R. D. The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie. 477, 817 (1997)
- GENSHEIMER, P. D. Detection of HCCNC from IRC +10216. P. D. Gensheimer. 479, L75 (1997)
- GEORGE, I. M. ASCA Observations of Seyfert 1 Galaxies. II. Relativistic Iron K α Emission. K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob. 477, 602 (1997)
- GERARD, E. Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel. 477, L85 (1997)
- GHEZ, ANDREA. Hubble Space Telescope WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez. 477, 705 (1997)
- GHIGNA, SEBASTIANO. Statistical Tests for CHDM and Λ CDM Cosmologies. Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Khlyin, & Joel R. Primack. 479, 580 (1997)
- GHOSH, PRANAB. The Nature of the "6 Second" and Related X-Ray Pulsars: Evolutionary and Dynamical Considerations. Pranab Ghosh, L. Angelini, & N. E. White. 478, 713 (1997)

- GIAMPAPA, MARK. Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa*. 479, 776 (1997)
- GIANTURCO, F. A. Radiative Association Rates and Structure of Resonances for Li and Li⁺ Colliding with H and H⁺. *F. A. Gianturco & P. Gori Giorgi*. 479, 560 (1997)
- GIES, DOUGLAS R. Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts*. 478, 211 (1997)
- Photospheric Heating in Colliding-Wind Binaries. *Douglas R. Gies, William G. Baguolo, Jr., & Laura R. Penny*. 479, 403 (1997)
- GILMOZZI, ROBERTO. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker*. 477, 848 (1997)
- GIOVANELLI, RICCARDO. The Tully-Fisher Relation and H₀. *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner*. 477, L1 (1997)
- GIRIDHAR, SUNETRA. Abundance Analyses of the Field RV Tauri Variables: EP Lyrae, DY Orionis, AR Puppis, and R Sagittae. *Guillermo Gonzalez, David L. Lambert, & Sunetra Giridhar*. 479, 427 (1997)
- GLENDINNING, S. G. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell*. 478, L75 (1997)
- GLENN, JASON. HCO⁺ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR 21 Star-forming Region. *Jason Glenn, Christopher K. Walker, & P. R. Jewell*. 479, 325 (1997)
- GODBOUT, STEVE. The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. *Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenault*. 478, 271 (1997)
- GOICOECHEA, LUIS JULIÁN. Time Delay of QSO 0957+561 and Cosmological Implications. *Alejandro Oscoz, Evencio Mediavilla, Luis Julián Goicoechea, Miquel Serra-Ricart, & Jesús Buitrago*. 479, L89 (1997)
- GOLDEN, R. L. Search for Antihelium in the Cosmic Rays. *R. L. Golden, S. J. Stochaj, S. A. Stephens, A. A. Moiseev, J. F. Ormes, R. E. Streimater, T. Bowen, A. Moats, & J. Lloyd-Evans*. 479, 992 (1997)
- GOLDSMITH, PAUL F. Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. *Debra Wolfovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer*. 477, 241 (1997)
- GOLUBEV, V. V. Detection of a New Methanol Maser Line with the Kitt Peak 12 Meter Telescope by Remote Observing from Moscow. *V. I. Slysh, S. V. Kalenskii, I. E. Val'ts, & V. V. Golubev*. 478, L37 (1997)
- GONZALEZ, GUILLERMO. Abundance Analyses of the Field RV Tauri Variables: EP Lyrae, DY Orionis, AR Puppis, and R Sagittae. *Guillermo Gonzalez, David L. Lambert, & Sunetra Giridhar*. 479, 427 (1997)
- GONZÁLEZ-DELGADO, ROSA M. The Stellar Content of Giant H II Regions in NGC 7714. *María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich*. 478, 112 (1997)
- GOODRICH, ROBERT W. Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill*. 477, 631 (1997)
- GORI GIORGI, P. Radiative Association Rates and Structure of Resonances for Li and Li⁺ Colliding with H and H⁺. *F. A. Gianturco & P. Gori Giorgi*. 479, 560 (1997)
- GOUDFROOIJ, P. Discovery of a Bow Shock around Vela X-1: Erratum. *L. Kaper, J. Th. van Loon, T. Augusteijn, P. Goudfrooij, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra*. 479, L153 (1997) (Orig. paper in 475, L37 (1997))
- GOULD, ANDREW. Satellite Parallaxes of Lensing Events toward the Galactic Bulge. *B. Scott Gaudi & Andrew Gould*. 477, 152 (1997)
- Stokes's Theorem Applied to Microlensing of Finite Sources. *Andrew Gould & Cédric Gauchere*. 477, 580 (1997)
- GOVERNATO, FABIO. Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn*. 477, L5 (1997)
- GRAF, U. U. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- GRAHAM, JOHN A. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. *John A. Graham, Randy L. Phelps, Wendy L. Freedman, Abhijit Saha, Laura Ferrarese, Peter B. Stetson, Barry F. Madore, N. A. Silberman, Shoko Sakai, Robert C. Kennicutt, Paul Harding, Fabio Bresolin, Anne Turner, Jeremy R. Mould, Daya M. Rawson, Holland C. Ford, John G. Hoessel, Mingsheng Han, John P. Huchra, Lucas M. Macri, Shaun M. Hughes, Garth D. Illingworth, & Daniel D. Kelson*. 477, 535 (1997)
- See Kelson, Daniel D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- GRAINGE, KEITH. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the z = 3.8 Quasar Pair PC 1643+4631A, B.
- See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the z = 3.8 Quasar Pair PC 1643+4631A, B.
- GRATTON, R. The Chemical Evolution of the Galaxy: The Two-Infall Model. *C. Chiappini, F. Matteucci, & R. Gratton*. 477, 765 (1997)
- GRAVES, J. ELON. Adaptive Optics 0.2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves*. 478, 766 (1997)
- GREGERSEN, ERIK. Possible Infall around the Intermediate-Mass Young Stellar Object NGC 2264 IRS. *Grace A. Wolf-Chase & Erik Gregersen*. 479, L67 (1997)
- GREGG, MICHAEL D. The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. *Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand*. 479, L93 (1997)
- GREGGIO, LAURA. The Structure of the Super-Star Clusters in NGC 1569 from Hubble Space Telescope WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi*. 479, L27 (1997)
- GREINER, L. See CHEN, C.-X., et al. Relativistic Interaction of ²²Ne and ²⁶Mg in Hydrogen and the Cosmic-Ray Implications.
- GRENFELL, T. G. Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes*. 478, 295 (1997)
- GRIEST, K. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- GRILLMAIR, CARL J. The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deidre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair*. 478, 124 (1997)
- GRINDLAY, J. E. The Distance of the Soft Gamma Repeater SGR 1806–20. *S. Corbel, P. Wallyn, T. M. Dame, P. Douchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay*. 478, 624 (1997)
- GRONWALL, CARYL. See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub-L* Systems.
- GUARNIERI, MARIA DONATA. On Calibrating Brightest Asymptotic Giant Branch Stars as Age Indicators: The Bulge Globular Cluster NGC 6553 and the Age of M32. *Maria Donata Guarnieri, Alvio Renzini, & Sergio Ortolani*. 477, L21 (1997)
- GÜDEL, MANUEL. A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from ASCA/EUVE Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner*. 479, 416 (1997)
- GUERN, J. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- GUINAN, EDWARD F. A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from ASCA/EUVE Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner*. 479, 416 (1997)
- The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status.

- Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak. 479, 960 (1997)
- GUZIK, T. G. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- GUZMÁN, R. See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems.
- GUZMÁN, RAFAEL. On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth. 478, L49 (1997)
- HAARMSMA, D. B. The 6 Centimeter Light Curves of B0957+561, 1979-1994: New Features and Implications for the Time Delay. D. B. Haarsma, J. N. Hewitt, J. Lehar, & B. F. Burke. 479, 102 (1997)
- HAAS, MICHAEL R. Physical Conditions in the Photodissociation Region of NGC 2023. Thomas Y. Steiman-Cameron, Michael R. Haas, A. G. G. M. Tielens, & Michael G. Burton. 478, 261 (1997)
- Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson. 479, 332 (1997)
- HAAS, S. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- HACHISU, IZUMI. Instabilities and Mixing in SN 1993J. Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio. 477, 865 (1997)
- HAGEN, HANS-JÜRGEN. SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen. 479, 678 (1997)
- HAIJAN, ARSEN R. The Timescale Correlation Method: Distances to Planetary Nebulae with Halos. Arsen R. Hajian, Adam Frank, Bruce Balick, & Yervant Terzian. 477, 226 (1997)
- HAKKILA, JON. Internal Luminosity Distribution of Bright Gamma-Ray Bursts and Its Relation to Duration and Spectral Hardness. John M. Horack & Jon Hakkila. 479, 371 (1997)
- HALPERN, J. See TAVANI, M., et al. Discovery of a Nonblazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04.
- HALPERN, J. P. A Broadband X-Ray Study of the Geminga Pulsar. J. P. Halpern & F. Y.-H. Wang. 477, 905 (1997)
- HAMANN, FRED. High-Resolution Spectra of Intrinsic Absorption Lines in the Quasi-stellar Object UM 675. Fred Hamann, Thomas A. Barlow, Vesa Junkkarinen, & E. M. Burbidge. 478, 80 (1997)
- Time-Variable Intrinsic Absorption Lines in the Quasi-stellar Object Q2343+125. Fred Hamann, Thomas A. Barlow, & Vesa Junkkarinen. 478, 87 (1997)
- HAMILTON, ANDREW J. S. Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin. 477, L53 (1997)
- HAN, J. L. Three Modes of Pulsar Inner Gap. B. Zhang, G. J. Qiao, W. P. Lin, & J. L. Han. 478, 313 (1997)
- HAN, MINGSHENG. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- HANAWA, TOMOYUKI. Gravitational Contraction of Rotating Clouds: Formation of Self-similarly Collapsing Disks. Tomoaki Matsumoto, Tomoyuki Hanawa, & Fumitaka Nakamura. 478, 569 (1997)
- HARA, HIROHISA. The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with Yohkoh/SXT and in the Extreme-Ultraviolet with SERTS. Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi. 477, 969 (1997)
- HARDING, PAUL. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- HARMON, B. A. Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel. 477, L85 (1997)
- The 1996 Soft State Transition of Cygnus X-1. S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs. 477, L95 (1997)
- See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst.
- HARMON, B. ALAN. A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepio Chakrabarty, & Thomas A. Prince. 479, 388 (1997)
- HARRA-MURNION, L. K. Investigating the Nonthermal Velocity of Small GOES-Class Flares Observed by Yohkoh. L. K. Harra-Murnion, K. Akita, & T. Watanabe. 479, 464 (1997)
- HARTL, MICHAEL D. Nonthermal Radio Emission from Solar Soft X-Ray Transient Brightenings. Dale E. Gary, Michael D. Hartl, & Toshifumi Shimizu. 477, 958 (1997)
- HARTMANN, D. Are Abell Clusters Correlated with Gamma-Ray Bursts? K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer. 479, L113 (1997)
- HARTMANN, D. H. Constraints from ^{26}Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. F. X. Timmes, R. Diehl, & D. H. Hartmann. 479, 760 (1997)
- HARTMANN, LEE W. Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa. 479, 776 (1997)
- HASEBE, N. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- HATZES, ARTIE P. Testing the Planet Hypothesis: A Search for Variability in the Spectral-Line Shapes of 51 Pegasi. Artie P. Hatzes, William D. Cochran, & Christopher M. Johns-Krull. 478, 374 (1997)
- HAYASHI, T. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- HAYNES, MARTHA P. The Tully-Fisher Relation and H_0 . Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner. 477, L1 (1997)
- HAYNES, TOBY. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- HE, LIDA. Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego. 478, 648 (1997)
- HEAP, SARA R. On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. Alex de Koter, Sara R. Heap, & Ivan Hubeny. 477, 792 (1997)
- HELFAND, DAVID J. Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies. Alexandre Refregier, David J. Helfand, & Richard G. McMahon. 477, 58 (1997)
- The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand. 479, L93 (1997)
- HELPER, TAMARA T. Synthesis Imaging of Dense Gas in Nearby Galaxies. Tamara T. Helfer & Leo Blitz. 478, 162 (1997)
- Dense Gas in the Milky Way. Tamara T. Helfer & Leo Blitz. 478, 233 (1997)
- HERBST, ERIC. The Rate of the Reaction between CN and C_2H_2 at Interstellar Temperatures. David E. Woon & Eric Herbst. 477, 204 (1997)
- The Formation of Large Hydrocarbons and Carbon Clusters in Dense Interstellar Clouds. R. P. A. Bettens & Eric Herbst. 478, 585 (1997)
- HERMSEN, W. See TAVANI, M., et al. Discovery of a Non-blazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04.
- HERNANZ, MARGARITA. New Results on ^{26}Al Production in Classical Novae. Jordi José, Margarita Hernanz, & Alain Coc. 479, L55 (1997)
- HERNOQUIST, LARS. Photoionization, Numerical Resolution, and Galaxy Formation. David H. Weinberg, Lars Hernquist, & Neal Katz. 477, 8 (1997)

- Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz.* 477, 21 (1997)
- Composition Mixing during Blue Straggler Formation and Evolution. *Eric L. Sandquist, Michael Bolte, & Lars Hernquist.* 477, 335 (1997)
- HESS, CYNTHIA J. Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels.* 478, 94 (1997)
- HEWITT, J. N. The 6 Centimeter Light Curves of B0957+561, 1979–1994: New Features and Implications for the Time Delay. *D. B. Haarsma, J. N. Hewitt, J. Lehar, & B. F. Burke.* 479, 102 (1997)
- HEYER, MARK. Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. *Debra Wolkovich, William D. Langer, Paul F. Goldsmith, & Mark Heyer.* 477, 241 (1997)
- HIBBERT, ALAN. Transition Rates of the Intercombination UV0.01 Multiplet in N II. *Tomas Brage, Alan Hibbert, & David S. Leckrone.* 478, 423 (1997)
- HILL, GARY J. Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill.* 477, 631 (1997)
- HILL, JESSE K. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). *Jesse K. Hill, William H. Waller, Robert H. Cornett, Ralph C. Bohlin, K.-P. Cheng, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, P. M. N. Hintzen, Eric P. Smith, & Theodore P. Stecher.* 477, 673 (1997)
- HILL, ROBERT. See Kelson, Daniel D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the *Hubble Space Telescope*: Erratum.
- HILLAS, A. M. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- HINTZEN, P. M. N. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- HIRANO, NAOMI. The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hiromi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto.* 478, 631 (1997)
- HO, C. RXTE Observation of PSR B1951+32. *H.-K. Chang & C. Ho.* 479, L125 (1997)
- HOESSEL, JOHN G. See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. See Kelson, Daniel D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the *Hubble Space Telescope*: Erratum.
- HOLLIS, J. M. A Maximum Entropy Method with a Priori Maximum Likelihood Constraints. *R. G. Lyon, J. M. Hollis, & J. E. Dorband.* 478, 658 (1997)
- HOLTZMAN, JON A. The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deidre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair.* 478, 124 (1997)
- HOLZAPFEL, W. L. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mauskopf, D. E. Osgood, & A. E. Lange.* 479, 17 (1997)
- HONINGH, C. E. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- HOOK, ISOBEL M. The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. *Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand.* 479, L93 (1997)
- HORACK, JOHN M. Internal Luminosity Distribution of Bright Gamma-Ray Bursts and Its Relation to Duration and Spectral Hardness. *John M. Horack & Jon Hakkila.* 479, 371 (1997)
- HOTTENROTH, D. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- HOVESTADT, D. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon.
- HOWARD, ERIC M. The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. *Eric M. Howard, David W. Koerner, & Judith L. Pipher.* 477, 738 (1997)
- HRIVNAK, BRUCE J. The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak.* 479, 960 (1997)
- HSU, JULIANA J. L. Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein.* 478, 663 (1997)
- HU, WAYNE. The Damping Tail of Cosmic Microwave Background Anisotropies. *Wayne Hu & Martin White.* 479, 568 (1997)
- HUANG, JIE-HAO. The Conelike Ho Nebula in NGC 4945: A Galactic Superwind Bow Shock? *Yang Chen & Jie-Hao Huang.* 479, L23 (1997)
- HUBENY, IVAN. On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny.* 477, 792 (1997)
- O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from *Hubble Space Telescope* Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat.* 478, 340 (1997)
- HUCHRA, JOHN. See Kelson, Daniel D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the *Hubble Space Telescope*: Erratum.
- HUCHRA, JOHN P. See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- HUDSON, HUGH S. Electron Temperatures of the Corona above a Solar Active Region Determined from S XV Spectra. *Alphonse C. Sterling, Hugh S. Hudson, & Tetsuya Watanabe.* 479, L149 (1997)
- HUDSON, MICHAEL J. The Environmental Dependence of Brightest Cluster Galaxies: Implications for Large-Scale Flows. *Michael J. Hudson & Harald Ebeling.* 479, 621 (1997)
- HUGHES, J. D. Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes.* 478, 295 (1997)
- HUGHES, SHAUN M. See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. See Kelson, Daniel D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the *Hubble Space Telescope*: Erratum.
- HUMMEL, C. A. See QUIRRENBACH, A., et al. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars.
- HUMPHREYS, NEIL P. Anisotropic Observations in Universes with Nonlinear Inhomogeneity. *Neil P. Humphreys, Roy Maartens, & David R. Matravers.* 477, 47 (1997)
- HUNSTEAD, RICHARD W. Dust in High-Redshift Galaxies. *Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead.* 478, 536 (1997)
- HUNTER, DEIDRE A. The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deidre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair.* 478, 124 (1997)
- HUNTER, T. R. Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. *T. R. Hunter, T. G. Phillips, & K. M. Menten.* 478, 283 (1997)
- HURLEY, K. Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer.* 479, L113 (1997)
- HURLEY, KEVIN. Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette.* 479, 868 (1997)
- HURT, TODD. Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette.* 479, 868 (1997)
- HURWITZ, MARK. EUV Observations of EX Hydrae: 10^7 K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko.* 477, 390 (1997)

- IBÁÑEZ, J. M³. Morphology and Dynamics of Relativistic Jets. *J. M³. Marí, E. Müller, J. A. Font, J. M³. Ibáñez, & A. Marquina.* 479, 151 (1997)
- IDA, SHIGERU. On the Origin of Massive Eccentric Planets. *D. N. C. Lin & Shigeru Ida.* 477, 781 (1997)
- IGLESIAS-PÁRAMO, JORGE. Recent Star Formation in Groups of Galaxies: HCG 31. *Jorge Iglesias-Páramo & José M. Vilchez.* 479, 190 (1997)
- IIDA, KEI. Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato.* 477, 294 (1997)
- ILLINGWORTH, GARTH D. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. See Kelson, Daniel D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum. Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)
- See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub-L* Systems.
- INGALLS, JAMES G. Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
- INMAN, C. A. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92. *C. A. Inman, E. S. Cheng, D. A. Cottingham, D. J. Fixsen, M. S. Kowitz, S. S. Meyer, L. A. Page, J. L. Puchalla, J. E. Ruhl, & R. F. Silverberg.* 478, L1 (1997)
- INOUE, H. See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst.
- INSOLIA, A. See CHEN, C.-X., et al. Relativistic Interaction of ²²Ne and ²⁶Mg in Hydrogen and the Cosmic-Ray Implications.
- IN'T ZAND, J. J. M. Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal.* 479, L47 (1997)
- IRVINE, W. M. Hydrogenation of Interstellar Molecules: A Survey for Methylenimine (CH₂NH). *J. E. Dickens, W. M. Irvine, C. H. DeVries, & M. Ohishi.* 479, 307 (1997)
- IRVINE, WILLIAM M. Nitrogen Sulfide in Giant Molecular Clouds. *Douglas McGonagle & William M. Irvine.* 477, 711 (1997)
- ISHIMARU, YUHRI. The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini.* 477, 128 (1997)
- IVEZIC, ŽELJKO. On Protostellar Disks in Herbig Ae/Be Stars: Erratum. *Anatoly Miroshnichenko, Željko Ivezić, & Moshe Elitzur.* 479, L153 (1997) (Orig. paper in 475, L41 (1997))
- IWAMOTO, KOHICHI. Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio.* 477, 865 (1997)
- IZOTOV, YURI I. Hubble Space Telescope Observations of the Blue Compact Dwarf SBS 0335-052: A Probable Young Galaxy. *Trinh X. Thuan, Yuri I. Izotov, & Valentin A. Lipovetsky.* 477, 661 (1997)
- JACKSON, JAMES M. A 2000 M_⊙ Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto.* 478, 614 (1997)
- Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
- JACOBS, K. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- JACOBY, GEORGE H. Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)
- JAKOBSEN, P. Is X-Ray Absorption from Quasar Absorption-Line Systems Detectable? *K. S. O'Flaherty & P. Jakobsen.* 479, 673 (1997)
- JEDAMZIK, K. Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews.* 479, 31 (1997)
- JEFFERIES, S. M. Restoration of Long-Exposure Full-Disk Solar Intensity Images. *C. G. Toner, S. M. Jefferies, & T. L. Duvall, Jr.* 478, 817 (1997)
- JENKINS, EDWARD B. Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert.* 477, 265 (1997)
- JENNISKENS, P. The Detection of a Dust Trail in the Orbit of an Earth-threatening Long-Period Comet. *P. Jenniskens, H. Betlem, M. de Lignie, & M. Langbroek.* 479, 441 (1997)
- JEWELL, P. R. HCO⁺ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR 21 Star-forming Region. *Jason Glenn, Christopher K. Walker, & P. R. Jewell.* 479, 325 (1997)
- JOHNS-KRULL, CHRISTOPHER M. Testing the Planet Hypothesis: A Search for Variability in the Spectral-Line Shapes of 51 Pegasi. *Artie P. Hatzes, William D. Cochran, & Christopher M. Johns-Krull.* 478, 374 (1997)
- JONCAS, GILLES. The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. *Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenault.* 478, 271 (1997)
- JONES, L. R. The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner.* 477, 79 (1997)
- JONES, MICHAEL E. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A. *B. Michael E. Jones, Richard Saunders, Joanne C. Baker, Garret Cotter, Alastair Edge, Keith Grainge, Toby Haynes, Anthony Lasenby, Guy Pooley, & Huub Röttgering.* 479, L1 (1997)
- See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- JONES, T. J. The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie.* 477, 817 (1997)
- JONES, TERRY J. Superwind Models for the Dust Shells around OH/IR Stars. *Kyung-Won Suh & Terry J. Jones.* 479, 918 (1997)
- JORE, KATHERINE P. NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakar, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils.* 479, 702 (1997)
- JOSÉ, JORDI. New Results on ²⁶Al Production in Classical Novae. *Jordi José, Margarita Hernanz, & Alain Coc.* 479, L55 (1997)
- JOSHI, B. C. The Drifting Behavior of PSR 0037-07. *M. Vivekanand & B. C. Joshi.* 477, 431 (1997)
- JOSHI, KRITEN J. Distant Companions and Planets around Millisecond Pulsars. *Kriten J. Joshi & Frederic A. Rasio.* 479, 948 (1997)
- JOY, MARSHALL. A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Lugimbuhl, Martin Sulkanen, & Mike Newberry.* 477, 144 (1997)
- JUI, CHARLES C. H. Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers.* 479, 547 (1997)
- JUNG, YOUNG-DAE. Classical Electron-Ion Coulomb Bremsstrahlung in Weakly Coupled Plasmas. *Young-Dae Jung & Kwang-Sup Yang.* 479, 912 (1997)
- JUNKKARINEN, VESA. High-Resolution Spectra of Intrinsic Absorption Lines in the Quasi-stellar Object UM 675. *Fred Hamann, Thomas A. Barlow, Vesa Junkkarinen, & E. M. Burbidge.* 478, 80 (1997)
- Time-Varyable Intrinsic Absorption Lines in the Quasi-stellar Object Q2343+125. *Fred Hamann, Thomas A. Barlow, & Vesa Junkkarinen.* 478, 87 (1997)
- JUNKKARINEN, VESA T. The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons.* 477, 568 (1997)
- KAastra, JELLE S. A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from ASCA/EUVE Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kastra, & Stephen L. Skinner.* 479, 416 (1997)
- KAHN, STEVEN M. Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels.* 478, 94 (1997)
- KAISER, R. L. Neutral-Neutral Reactions in the Interstellar Medium. I. Formation of Carbon Hydride Radicals via Reaction of Carbon

- Atoms with Unsaturated Hydrocarbons. *R. I. Kaiser, D. Stranges, Y. T. Lee, & A. G. Suits.* 477, 982 (1997)
- KALENSKII, S. V. Detection of a New Methanol Maser Line with the Kitt Peak 12 Meter Telescope by Remote Observing from Moscow. *V. I. Slysh, S. V. Kalenskii, I. E. Val'its, & V. V. Golubev.* 478, L37 (1997)
- KALLMAN, TIMOTHY R. Hydrodynamical Models of Line-driven Accretion Disk Winds. *Nicolas Antonio Pereyra, Timothy R. Kallman, & John M. Blondin.* 477, 368 (1997)
- Ultraviolet Emission-Line Ratios of Cataclysmic Variables. *Christopher W. Mauche, Y. Paul Lee, & Timothy R. Kallman.* 477, 832 (1997)
- KALUŻNY, J. Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kahuźny, M. Kubiak, M. Mateo, & W. Krzemiński.* 477, 163 (1997)
- KAMAE, T. Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821-24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni.* 477, L37 (1997)
- KAMEYA, OSAMU. The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto.* 478, 631 (1997)
- KANBACH, G. See TAVAN, M., et al. Discovery of a Non-blazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04.
- KANE, J. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell.* 478, L75 (1997)
- KAPER, L. Discovery of a Bow Shock around Vela X-1: Erratum. *L. Kaper, J. Th. van Loon, T. Augusteijn, P. Goudfroiij, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra.* 479, L153 (1997) (Orig. paper in 475, L37 (1997))
- KASAI, Y. Laboratory Detection of the C_3N Radical by Fourier-Transform Microwave Spectroscopy. *Y. Kasai, Y. Sumiyoshi, Y. Endo, & K. Kawaguchi.* 477, L65 (1997)
- KASHIWAGI, T. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts.
- KATO, C. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts.
- KATZ, J. I. A Precessing Disk in OJ 287? *J. I. Katz.* 478, 527 (1997)
- KATZ, NEAL. Photoionization, Numerical Resolution, and Galaxy Formation. *David H. Weinberg, Lars Hernquist, & Neal Katz.* 477, 8 (1997)
- Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz.* 477, 21 (1997)
- KATZ-STONE, D. M. A Spectral Analysis of Two Compact Steep-Spectrum Sources. *D. M. Katz-Stone & L. Rudnick.* 479, 258 (1997)
- KAWAGUCHI, K. Laboratory Detection of the C_3N Radical by Fourier-Transform Microwave Spectroscopy. *Y. Kasai, Y. Sumiyoshi, Y. Endo, & K. Kawaguchi.* 477, L65 (1997)
- KAWAI, N. Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821-24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni.* 477, L37 (1997)
- KELSON, DANIEL D. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum. *Daniel D. Kelson, Garth D. Illingworth, Wendy F. Freedman, John A. Graham, Robert Hill, Barry F. Madore, Abhijit Saha, Peter B. Stetson, Robert C. Kennicutt, Jr., Jeremy R. Mould, Shaun M. Hughes, Laura Ferrarese, Randy Phelps, Anne Turner, Kern H. Cook, Holland Ford, John G. Hoessel, & John Huchra.* 478, 430 (1997) (Orig. paper in 477, 535 (1997))
- Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)
- KEMBHAVI, AJIT. Origin of the Spread in the $B - K$ Color of Quasars. *R. Srikanand & Ajit Kembhavi.* 478, 70 (1997)
- KENNICUTT, ROBERT C. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- KENNICUTT, ROBERT C., JR. See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- KENYON, SCOTT J. A Laboratory for Magnetized Accretion Disk Model: Ultraviolet and X-Ray Emission from Cataclysmic Variable GK Persei. *Insu Yi & Scott J. Kenyon.* 477, 379 (1997)
- KESTEVEN, M. J. The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven.* 479, 845 (1997)
- KHALFAOUI, A. H. Thermal Conduction by Electrons in Hot Dense Plasmas. *A. H. Khalfaoui & D. Bannaceur.* 478, 326 (1997)
- KHOKHLOV, A. M. Deflagration-to-Detonation Transition in Thermonuclear Supernovae. *A. M. Khokhlov, E. S. Oran, & J. C. Wheeler.* 478, 678 (1997)
- Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick.* 479, 164 (1997)
- KIKUCHI, J. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts.
- KIKUCHI, N. Global Spiral Modes in a Three-Phase Gravitating Disk. *N. Kikuchi, V. Korchagin, & S. M. Miyama.* 478, 446 (1997)
- KIM, EUN-JIN. Turbulent Diffusion of Large-Scale Magnetic Fields in the Presence of Ambipolar Drift. *Eun-Jin Kim.* 477, 183 (1997)
- KIM, SANG-HEE. Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson.* 478, 395 (1997)
- KING, A. R. An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs.* 479, L145 (1997)
- KING, DAVID L. Dust in High-Redshift Galaxies. *Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead.* 478, 536 (1997)
- KING, JEREMY R. The ^9Be Abundances of α Centauri A and B and the Sun: Implications for Stellar Evolution and Mixing. *Jeremy R. King, Constantine P. Deliyannis, & Ann Merchant Boesgaard.* 478, 778 (1997)
- KINGDON, J. B. Grains in Ionized Nebulae. II. Heavy-Element Depletion. *J. B. Kingdon & G. J. Ferland.* 477, 732 (1997)
- KINGHAM, KERRY A. VLBI Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham.* 479, 684 (1997)
- KINNEY, ANNE L. A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. *Henrique R. Schmitt, Anne L. Kinney, Thaisa Storchi-Bergmann, & Robert Antonucci.* 477, 623 (1997)
- KIRHAKOS, SOFIA. Hubble Space Telescope Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider.* 479, 642 (1997)
- KIRSHNER, ROBERT P. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker.* 477, 848 (1997)
- KLEBE, DIMITRI I. Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. *Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe.* 477, 825 (1997)
- KLECKER, B. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3-70 MeV per Nucleon.
- KLEIN, RICHARD I. Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein.* 478, 663 (1997)
- KLIMCHUK, J. A. A Nanoflare Explanation for the Heating of Coronal Loops Observed by Yohkoh. *P. J. Cargill & J. A. Klimchuk.* 478, 799 (1997)
- KLYPIN, ANATOLY. Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack.* 479, 580 (1997)
- KNOTT, C. N. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.

- KO, YUAN-KUEN. EUV Observations of EX Hydrae: 10^7 K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko.* 477, 390 (1997)
- KOBAYASHI, M. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- KOBULNICKY, HENRY A. Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa.* 477, 679 (1997)
- KOCHANIEK, CHRISTOPHER S. SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? *Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen.* 479, 678 (1997)
- KOERNER, DAVID W. The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. *Eric M. Howard, David W. Koerner, & Judith L. Piper.* 477, 738 (1997)
- KOH, DANNY T. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2. *Danny T. Koh, Lars Bildsten, Deepthi Chakrabarty, Robert W. Nelson, Thomas A. Prince, Brian A. Vaughan, Mark H. Finger, Robert B. Wilson, & Bradley C. Rubin.* 479, 933 (1997)
- KOHNO, T. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- KOIDE, SHINJI. A Two-dimensional Simulation of a Relativistic Jet Bent by an Oblique Magnetic Field. *Shinji Koide.* 478, 66 (1997)
- KOLATT, TSAFRIR. Large-Scale Power Spectrum from Peculiar Velocities. *Tsafrir Kolatt & Avishai Dekel.* 479, 592 (1997)
- KONDOH, K. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- KOO, DAVID C. On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? *David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth.* 478, 149 (1997)
- See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems.
- KORANYI, DANIEL M. Testing the Hubble Law with the IRAS 1.2 Jy Redshift Survey. *Daniel M. Koranyi & Michael A. Strauss.* 477, 36 (1997)
- KORCHAGIN, V. Global Spiral Modes in a Three-Phase Gravitating Disk. *N. Kikuchi, V. Korchagin, & S. M. Miyama.* 478, 446 (1997)
- KORCHAGIN, VLADIMIR. Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams.* 477, 410 (1997)
- KORISTA, K. T. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- KORISTA, KIRK T. Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bottorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford.* 479, 200 (1997)
- KOSUGI, TAKEO. Hot and Superhot Plasmas above an Impulsive Flare Loop. *Saku Tsuneta, Satoshi Masuda, Takeo Kosugi, & Jun Sato.* 478, 787 (1997)
- KOUVELIOTOU, C. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer.* 479, 1113 (1997)
- KOVACS, A. Formation of a Solar Filament Channel. *V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs.* 479, 448 (1997)
- KOVETZ, ATTAY. The Composition of Nova Ejecta from Multicycle Evolution Models. *Attay Kovetz & Dina Prialnik.* 477, 356 (1997)
- KOWITT, M. S. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- KRAEMER, KATHLEEN E. A $2000 M_{\odot}$ Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto.* 478, 614 (1997)
- KRELOWSKI, J. Intrinsic Profiles of Strong Diffuse Interstellar Bands. *J. Krelowski & M. Schmidt.* 477, 209 (1997)
- KRENNRICH, F. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- KRISS, G. A. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- KRISTIAN, J. High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleditch, J. Kristian, & C. R. Pennyacker.* 477, 465 (1997)
- KROCKENBERGER, MARTIN. Radii and Distances of Cepheids. I. Method and Measurement Errors. *Martin Krockenberger, Dimitar D. Sasselov, & Robert W. Noyes.* 479, 875 (1997)
- KROLIK, J. H. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- KRONBERG, PHILIPP P. Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu.* 477, 560 (1997)
- KRYMOLOWSKI, YUVAL. The High Eccentricity of the Planet Orbiting 16 Cygni B. *Tsevi Mazeh, Yuval Krzylowski, & Gady Rosenfeld.* 477, 1103 (1997)
- KRZEMIŃSKI, W. Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kubiak, M. Kubiak, M. Mateo, & W. Krzemiński.* 477, 163 (1997)
- KUBIAK, M. Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kubiak, M. Kubiak, M. Mateo, & W. Krzemiński.* 477, 163 (1997)
- KUCERA, T. Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle.* 477, 1119 (1997)
- KULKARNI, S. R. Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821-24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni.* 477, 137 (1997)
- The Proper Motion and Parallax of PSR J0437-4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson.* 478, 195 (1997)
- KUMAR, PAWAN. Differential Rotation Enhanced Dissipation of Tides in the PSR J0045-7319 Binary. *Pawan Kumar & Eliot J. Quataert.* 479, 151 (1997)
- KURKI-SUONIO, H. Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews.* 479, 31 (1997)
- KUSUNOSE, MASAOKI. Physical Model of Gamma-Ray Burst Spectral Evolution. *Edison Liang, Masaaki Kusunose, I. A. Smith, & A. Crider.* 479, 135 (1997)
- KUULKERS, E. Discovery in 4U 1636-53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers.* 479, 1141 (1997)
- KUZNETSOV, A. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- KWOK, SUN. A Self-consistent Photoionization-Dust Continuum-Molecular Line Transfer Model of NGC 7027. *Kevin Volk & Sun Kwok.* 477, 722 (1997)
- LACY, MARK. See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- LADA, ELIZABETH A. Spatial Distribution of Embedded Clusters in the Rosette Molecular Cloud: Implications for Cluster Formation. *Randy L. Phelps & Elizabeth A. Lada.* 477, 176 (1997)
- LAGE, PIERRE OLIVIER. High-Resolution Infrared Observations of GGD 27. *Brigitte Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage.* 479, 339 (1997)
- LAMB, D. Q. Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benenroth, D. Q. Lamb, & R. E. Taam.* 478, 723 (1997)
- LAMB, F. K. Discovery in 4U 1636-53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers.* 479, 1141 (1997)
- LAMB, R. C. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- LAMBAS, DIEGO G. The Luminosity Function of Galaxies in Clusters. *Carlos A. Valotto, Mariano A. Nicotra, Hernan Muriel, & Diego G. Lambas.* 479, 90 (1997)

- LAMBERT, DAVID L. Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts.* 478, 211 (1997)
- Abundance Analyses of the Field RV Tauri Variables: EP Lyrae, DY Orionis, AR Puppis, and R Sagittae. *Guillermo Gonzalez, David L. Lambert, & Suneeta Giridhar.* 479, 427 (1997)
- LAMING, J. MARTIN. Stellar Coronal Abundances. V. Evidence for the First Ionization Potential Effect in α Centauri. *Jeremy J. Drake, J. Martin Laming, & Kenneth G. Widing.* 478, 403 (1997)
- LANE, ADAIR P. Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
- LANGBROEK, M. The Detection of a Dust Trail in the Orbit of an Earth-threatening Long-Period Comet. *P. Jenniskens, H. Betlem, M. de Lignie, & M. Langbroek.* 479, 441 (1997)
- LANGE, A. E. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Moskopski, D. E. Osgood, & A. E. Lange.* 479, 17 (1997)
- LANGER, NORBERT. O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from Hubble Space Telescope Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat.* 478, 340 (1997)
- LANGER, WILLIAM D. Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. *Debra Wolkovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer.* 477, 241 (1997)
- LANZA, A. Accretion Disks around Kerr Black Holes: Vertical Equilibrium Revisited. *M. A. Abramowicz, A. Lanza, & M. J. Percival.* 479, 179 (1997)
- LAOR, ARI. The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell.* 477, 93 (1997)
- Hadronic Production of TeV Gamma-Ray Flares from Blazars. *Arnon Dar & Ari Laor.* 478, L5 (1997)
- LAROS, J. Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer.* 479, L113 (1997)
- LASENBY, ANTHONY. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- LATHAM, DAVID W. Eccentricity versus Mass for Low-Mass Secondaries and Planets. *Tsevi Mazeh, Michel Mayor, & David W. Latham.* 478, 367 (1997)
- The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. *Guillermo Torres, Robert P. Stefanik, & David W. Latham.* 479, 268 (1997)
- LAUER, TOD R. Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the Hubble Space Telescope. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum.* 478, 49 (1997)
- LAUGHLIN, GREGORY. Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams.* 477, 410 (1997)
- LAWRENCE, G. F. The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie.* 477, 817 (1997)
- LECKRONE, DAVID S. Transition Rates of the Intercombination UV0.01 Multiplet in N II. *Tomas Brage, Alan Hibbert, & David S. Leckrone.* 478, 423 (1997)
- LEE, WEI. Relative Band Oscillator Strengths for Carbon Monoxide: A $^{12}\text{C}-^{12}\text{C}$ $^1\Sigma^+$ Transitions. *S. R. Federman, K. L. Menningen, Wei Lee, & J. B. Stoll.* 477, L61 (1997)
- LEE, Y. PAUL. Ultraviolet Emission-Line Ratios of Cataclysmic Variables. *Christopher W. Mauche, Y. Paul Lee, & Timothy R. Kallman.* 477, 832 (1997)
- LEE, Y. T. Neutral-Neutral Reactions in the Interstellar Medium. I. Formation of Carbon Hydride Radicals via Reaction of Carbon Atoms with Unsaturated Hydrocarbons. *R. I. Kaiser, D. Stranges, Y. T. Lee, & A. G. Suits.* 477, 982 (1997)
- LEHAR, J. The 6 Centimeter Light Curves of B0957+561, 1979-1994: New Features and Implications for the Time Delay. *D. B. Haarsma, J. N. Hewitt, J. Lehar, & B. F. Burke.* 479, 102 (1997)
- LEHNER, M. J. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- LEHNERT, MATTHEW D. The Complex Broadband X-Ray Spectrum of the Starburst Galaxy M82. *Edward C. Moran & Matthew D. Lehnert.* 478, 172 (1997)
- LEHR, DANA E. The 67 Hz Feature in the Black Hole Candidate GRS 1915+105 as a Possible "Diskoseismic" Mode. *Michael A. Nowak, Robert V. Wagoner, Mitchell C. Begelman, & Dana E. Lehr.* 477, L91 (1997)
- LEITHERER, CLAUS. O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from Hubble Space Telescope Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat.* 478, 340 (1997)
- The Structure of the Super-Star Clusters in NGC 1569 from Hubble Space Telescope WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Gregg, Claus Leitherer, Antonella Nota, & Monica Tosi.* 479, L27 (1997)
- LEMAIRE, P. Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle.* 477, L119 (1997)
- LEMKE, MICHAEL. Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts.* 478, 211 (1997)
- LEMOINE, MARTIN. On the Significance of Population II ^6Li Abundances. *Martin Lemoine, David N. Schramm, James W. Truran, & Craig J. Copi.* 478, 554 (1997)
- LE ROUX, JAKOBUS A. The Influence of Pickup, Anomalous, and Galactic Cosmic-Ray Protons on the Structure of the Heliospheric Shock: A Self-consistent Approach. *Jakobus A. le Roux & Horst Fichtner.* 477, L115 (1997)
- LESKE, R. A. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3-70 MeV per Nucleon.
- LESSARD, R. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- LEVENTHAL, MARVIN. Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin.* 477, L53 (1997)
- LEWIN, W. H. G. Discovery in 4U 1636-53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers.* 479, L141 (1997)
- LEWIN, WALTER H. G. Results of Ginga/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735-444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs.* 479, 398 (1997)
- LI, HUI. Electron Acceleration and the Production of Nonthermal Electron Distributions in Accretion Disk Coronae. *Hui Li & James A. Miller.* 478, L67 (1997)
- LI, T. P. Test for Cosmological Time Dilation in Long Gamma-Ray Bursts. *H. Che, Y. Yang, M. Wu, & T. P. Li.* 477, L69 (1997)
- LI, X. Q. Magnetic Reconnection by Langmuir Solitons. *X. Q. Li & Z. D. Zhang.* 479, 1028 (1997)
- LIANG, E. P. See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- LIANG, EDISON. Physical Model of Gamma-Ray Burst Spectral Evolution. *Edison Liang, Masaaki Kusunose, I. A. Smith, & A. Crider.* 479, L35 (1997)
- LIGHT, ROBERT M. The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deirdre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair.* 478, 124 (1997)
- LILJESTRÖM, TARJA. Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tarja Liljestrom & Göran Olofsson.* 478, 381 (1997)

- LIMONGI, MARCO. Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini*. 478, 332 (1997)
- LIN, D. N. C. On the Origin of Massive Eccentric Planets. *D. N. C. Lin & Shigeru Ida*. 477, 781 (1997)
- LIN, W. P. Three Modes of Pulsar Inner Gap. *B. Zhang, G. J. Qiao, W. P. Lin, & J. L. Han*. 478, 313 (1997)
- LINDSTROM, P. J. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- LINK, BENNETT. Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein*. 478, L91 (1997)
- LINN, ANGELA M. The Ellipticity and Orientation of Clusters of Galaxies in *N*-Body Experiments. *Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker*. 479, 632 (1997)
- LINSKY, JEFFREY L. The ROSAT All-Sky Survey of Active Binary Coronae. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. *Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmitt*. 478, 358 (1997)
- Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres*. 478, 745 (1997)
- Periodic X-Ray Emission from the O7 V Star θ^1 Orionis C. *Marc Gagné, Jean-Pierre Caillaud, John R. Stauffer, & Jeffrey L. Linsky*. 478, L87 (1997)
- LIPOVETSKY, VALENTIN A. Hubble Space Telescope Observations of the Blue Compact Dwarf SBS 0335–052: A Probable Young Galaxy. *Trinh X. Thuan, Yuri I. Izotov, & Valentin A. Lipovetsky*. 477, 661 (1997)
- LITES, BRUCE W. The Vector Magnetic Field, Evershed Flow, and Intensity in a Sunspot. *Donald C. H. Stanchfield II, John H. Thomas, & Bruce W. Lites*. 477, 485 (1997)
- LIU, WEIHONG. Molecules in Type Ia Supernovae. *Weihong Liu*. 479, 907 (1997)
- LIVIO, M. Precessing Jets in Supersoft X-Ray Sources. *K. A. Southwell, M. Livio, & J. E. Pringle*. 478, L29 (1997)
- LIVIO, MARIO. On the Observational Evidence for Accretion Disks in Active Galactic Nuclei. *Mario Livio & Chun Xu*. 478, L63 (1997)
- LLOYD-EVANS, J. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- LO, C. Y. Comments on Misunderstandings of Relativity and the Theoretical Interpretation of the Kreuzer Experiment. *C. Y. Lo*. 477, 700 (1997)
- LOCKWOOD, J. A. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- LOEB, ABRAHAM. Gravitational Lensing of the X-Ray Background by Clusters of Galaxies. *Alexandre Refregier & Abraham Loeb*. 478, 476 (1997)
- LOMINADZE, J. Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakidze*. 479, 313 (1997)
- LOOPER, M. D. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon.
- LÓPEZ-CRUZ, OMAR. Evolution of Cluster Ellipticals at $0.2 < z < 1.2$ from Hubble Space Telescope Imaging. *David Schade, L. Felipe Barrientos, & Omar López-Cruz*. 477, L17 (1997)
- LORD, STEVEN D. Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. *Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson*. 479, 332 (1997)
- LOWENTHAL, J. D. See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems.
- LUGINBUHL, CHRISTIAN B. A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkkanen, & Mike Newberry*. 477, 144 (1997)
- LUNDQVIST, PETER. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker*. 477, 848 (1997)
- LYNDS, ROGER. The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deidre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair*. 478, 124 (1997)
- LYON, R. G. A Maximum Entropy Method with a Priori Maximum Likelihood Constraints. *R. G. Lyon, J. M. Hollis, & J. E. Dorband*. 478, 658 (1997)
- LYONS, R. W. The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons*. 477, 568 (1997)
- MAARTENS, ROY. Anisotropic Observations in Universes with Nonlinear Inhomogeneity. *Neil P. Humphreys, Roy Maartens, & David R. Matavers*. 477, 47 (1997)
- MACHABELI, G. Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakidze*. 479, 313 (1997)
- MACHABELI, GEORGE Z. Escaping Radio Emission from Pulsars: Possible Role of Velocity Shear. *Swadesh M. Mahajan, George Z. Machabeli, & Andria D. Rogava*. 479, L129 (1997)
- MACKIE, G. ROSAT HRI Observations of NGC 4038/4039, "The Antennae" Galaxies. *G. Fabbiano, François Schweizer, & G. Mackie*. 478, 542 (1997)
- MAC LOW, MORDECAI-MARK. An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren*. 478, 638 (1997)
- MACRI, LUCAS M. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- MADORE, BARRY F. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the Hubble Space Telescope. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum*. 478, 49 (1997)
- See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- MAHADEVAN, ROHAN. Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan*. 477, 585 (1997)
- MAHAJAN, SWADESH M. Escaping Radio Emission from Pulsars: Possible Role of Velocity Shear. *Swadesh M. Mahajan, George Z. Machabeli, & Andria D. Rogava*. 479, L129 (1997)
- MAHONEY, W. A. The Distance of the Soft Gamma Repeater SGR 1806–20. *S. Corbel, P. Wallyn, T. M. Dame, P. Douchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay*. 478, 624 (1997)
- MAKINO, FUMIYOSHI. Results of Ginga/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735–444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs*. 479, 398 (1997)
- MAKINO, JUNICHIRO. On the Origin of Cusps in Dark Matter Halos. *Toshiyuki Fukushige & Junichiro Makino*. 477, L9 (1997)
- Merging of Galaxies with Central Black Holes. II. Evolution of the Black Hole Binary and the Structure of the Core. *Junichiro Makino*. 478, 58 (1997)
- MALKAN, M. The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner*. 477, 79 (1997)
- MALKAN, M. A. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- MANCHESTER, R. N. The Proper Motion and Parallax of PSR J0437–4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)

- The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven.* 479, 845 (1997)
- MANDZHAVIDZE, NATALIE. The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotter.* 479, 458 (1997)
- MANNHEIM, PHILIP D. Are Galactic Rotation Curves Really Flat? *Philip D. Mannheim.* 479, 659 (1997)
- MARCONI, MARCELLA. Second Overtone Pulsators among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf.* 477, 346 (1997)
- Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi.* 479, 279 (1997)
- MARISKA, J. T. Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle.* 477, L119 (1997)
- MARQUINA, A. Morphology and Dynamics of Relativistic Jets. *J. M^a. Martí, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina.* 479, 151 (1997)
- MARSHALL, H. L. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet. *H. L. Marshall, T. E. Carone, B. M. Peterson, J. Clavel, D. M. Crenshaw, K. T. Korista, G. A. Kriss, J. H. Krolik, M. A. Malkan, S. L. Morris, P. T. O'Brien, & G. A. Reichert.* 479, 222 (1997)
- MARSHALL, S. L. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- MARTEL, HUGO. Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac.* 479, 46 (1997)
- MARTÍ, J. M^a. Morphology and Dynamics of Relativistic Jets. *J. M^a. Martí, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina.* 479, 151 (1997)
- MARTIN, P. G. Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson.* 478, 395 (1997)
- MARTIN, R. N. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- MARTIN, STEVEN C. A Funnel Flow Origin for CO Bandhead Emission in Young Stellar Objects. *Steven C. Martin.* 478, L33 (1997)
- MARTÍNEZ-GONZÁLEZ, E. Large-Scale QSO-Galaxy Correlations for Radio-loud and Optically Selected QSO Samples. *N. Benítez & E. Martínez-González.* 477, 27 (1997)
- Peaks in the Cosmic Microwave Background: Flat versus Open Models. *R. B. Barreiro, J. L. Sanz, E. Martínez-González, L. Cayón, & Joseph Silk.* 478, 1 (1997)
- MARTÍN-PINTADO, J. Detection of CO⁺ toward the Reflection Nebula NGC 7023. *A. Fuente & J. Martín-Pintado.* 477, L107 (1997)
- MASON, G. M. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon.
- MASUDA, SATOSHI. Hot and Superhot Plasmas above an Impulsive Flare Loop. *Saku Tsuneta, Satoshi Masuda, Takeo Kosugi, & Jun Sato.* 478, 787 (1997)
- MATHEWS, G. J. Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews.* 479, 31 (1997)
- MATHIS, JOHN S. Dust Grain Size Distributions and the Abundance of Refractory Elements in the Diffuse Interstellar Medium. *James E. O'Donnell & John S. Mathis.* 479, 806 (1997)
- MATHUR, SMITA. The X-Ray Warm Absorber in NGC 3516. *Smita Mathur, Belinda J. Wilkes, & Thomas Aldcroft.* 478, 182 (1997)
- MATRAVERS, DAVID R. Anisotropic Observations in Universes with Nonlinear Inhomogeneity. *Neil P. Humphreys, Roy Maartens, & David R. Matavers.* 477, 47 (1997)
- MATSUMOTO, TOMOAKI. Gravitational Contraction of Rotating Clouds: Formation of Self-similarly Collapsing Disks. *Tomoaki Matsumoto, Tomoyuki Hanawa, & Fumitaka Nakamura.* 478, 569 (1997)
- MATSUOKA, M. ASCA and ROSAT X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali.* 478, 492 (1997)
- MATSUSHITA, KYOKO. The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini.* 477, 128 (1997)
- MATTEO, M. Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kahuźny, M. Kubiak, M. Matteo, & W. Krzemiński.* 477, 163 (1997)
- MATTESON, J. L. See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- MATTEUCCI, F. The Chemical Evolution of the Galaxy: The Two-Infall Model. *C. Chiappini, F. Matteucci, & R. Gratton.* 477, 765 (1997)
- MATTOX, J. R. See TAVANI, M., et al. Discovery of a Non-blazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838–04.
- MAUCHE, CHRISTOPHER W. Ultraviolet Emission-Line Ratios of Cataclysmic Variables. *Christopher W. Mauche, Y. Paul Lee, & Timothy R. Kallman.* 477, 832 (1997)
- MAUSKOPF, P. D. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Moskops, D. E. Osgood, & A. E. Lange.* 479, 17 (1997)
- MAYOR, MICHEL. Eccentricity versus Mass for Low-Mass Secondaries and Planets. *Tsevi Mazeh, Michel Mayor, & David W. Latham.* 478, 367 (1997)
- MAZEH, TSEVI. The High Eccentricity of the Planet Orbiting 16 Cygni B. *Tsevi Mazeh, Yuval Krymowski, & Gady Rosenfeld.* 477, L103 (1997)
- Eccentricity versus Mass for Low-Mass Secondaries and Planets. *Tsevi Mazeh, Michel Mayor, & David W. Latham.* 478, 367 (1997)
- MAZUR, J. E. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon.
- MAZZITELLI, I. The Universe and Globular Clusters: An Age Conflict? *F. D'Antona, V. Caloi, & I. Mazzitelli.* 477, 519 (1997)
- MAZZOTTA, P. Intracuster Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio.* 479, 1 (1997)
- MCCLEINTOCK, JEFFREY E. Advection-dominated Accretion and Black Hole Event Horizons. *Ramesh Narayan, Michael R. Garcia, & Jeffrey E. McClintock.* 478, L79 (1997)
- An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655–40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock.* 478, L83 (1997)
- MCCRAY, RICHARD. X-Rays from the Impact of SN 1987A with Its Circumstellar Ring. *Kazimierz J. Borkowski, John M. Blondin, & Richard McCray.* 477, 281 (1997)
- An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren.* 478, 638 (1997)
- MCDOWELL, JONATHAN C. The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell.* 477, 93 (1997)
- MCENERY, J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- MCGAUGH, STACY S. Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok.* 477, L79 (1997)
- MCGONAGLE, DOUGLAS. Nitrogen Sulfide in Giant Molecular Clouds. *Douglas McGonagle & William M. Irvine.* 477, 711 (1997)
- MCHEDLISHVILI, G. Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shpakidze.* 479, 313 (1997)
- McKEE, MARGARET Q. The Bull's-Eye Effect: Are Galaxy Walls Observationally Enhanced? *Elizabeth A. Praton, Adrian L. Melott, & Margaret Q. McKee.* 479, L15 (1997)
- McMAHON, M. See CHEN, C.-X., et al. Relativistic Interaction of ²²Ne and ²⁶Mg in Hydrogen and the Cosmic-Ray Implications.
- McMAHON, RICHARD G. Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies.

- Alexandre Refregier, David J. Helfand, & Richard G. McMahon. 477, 58 (1997)
- The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand. 479, L93 (1997)
- MCMULLIN, J. P. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- MEDIALLA, EVENCIO. Time Delay of QSO 0957+561 and Cosmological Implications. Alejandro Osoez, Evencio Mediavilla, Luis Julián Goicoechea, Miquel Serra-Ricart, & Jesús Buitrago. 479, L89 (1997)
- MEEGAN, C. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- MELIA, FULVIO. Accretion Disk Evolution with Wind Infall. I. General Solution and Application to Sagittarius A*. Heino Falcke & Fulvio Melia. 479, 740 (1997)
- MELOTT, ADRIAN L. The Bull's-Eye Effect: Are Galaxy Walls Observationally Enhanced? Elizabeth A. Praton, Adrian L. Melott, & Margaret Q. McKee. 479, L15 (1997)
- The Ellipticity and Orientation of Clusters of Galaxies in *N*-Body Experiments. Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker. 479, 632 (1997)
- Demonstrating Discreteness and Collision Error in Cosmological *N*-Body Simulations of Dark Matter Gravitational Clustering. Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto. 479, L79 (1997)
- MÉNDEZ, M. An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs. 479, L145 (1997)
- MÉNDEZ, MARIANO. The EXOSAT Data on GX 339-4: Further Evidence for an "Intermediate" State. Mariano Méndez & Michiel van der Klis. 479, 926 (1997)
- MENNINGEN, K. L. Relative Band Oscillator Strengths for Carbon Monoxide: A ${}^1\Pi-X\ {}^1\Sigma^+$ Transitions. S. R. Federman, K. L. Menningen, Wei Lee, & J. B. Stoll. 477, L61 (1997)
- MENTEN, K. M. Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. T. R. Hunter, T. G. Phillips, & K. M. Menten. 478, 283 (1997)
- MEWALDT, R. A. See OETLIKER, M., et al. The Ionic Charge of Solar Energetic Particles with Energies of 0.3-70 MeV per Nucleon.
- MEWE, ROLF. A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from ASCA/EUVE Spectra. Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner. 479, 416 (1997)
- MEYER, DAVID M. The Abundance of Interstellar Krypton. Jason A. Cardelli & David M. Meyer. 477, L57 (1997)
- MEYER, S. S. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- MIDDLEDITCH, J. High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleditch, J. Kristian, & C. R. Pennypacker. 477, 465 (1997)
- MIHOS, J. CHRISTOPHER. Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok. 477, L79 (1997)
- MIKAMI, HITOMI. The Small-Scale Structure of the CO Outflow in Barnard 1. Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto. 478, 631 (1997)
- MILGROM, MORDEHAI. Large-Scale Filaments: Newtonian versus Modified Dynamics. Mordehai Milgrom. 478, 7 (1997)
- MILLER, JAMES A. Electron Acceleration and the Production of Nonthermal Electron Distributions in Accretion Disk Coronae. Hui Li & James A. Miller. 478, L67 (1997)
- MILLER, M. COLEMAN. Magnetized Iron Atmospheres for Neutron Stars. Mohan Rajagopal, Roger W. Romani, & M. Coleman Miller. 479, 347 (1997)
- MILONE, A. The Near-Infrared Na I Doublet Feature in M Stars. R. P. Schiavon, B. Barbuy, S. C. F. Rossi, & A. Milone. 479, 902 (1997)
- MIN, KYOUNG-WOOK. Results of Ginga/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735-444. Kwang-Il Seon, Kyoungh-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs. 479, 398 (1997)
- MINESHIGE, SHIN. Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. Masayuki Umemura, Jun Fukue, & Shin Mineshige. 479, L97 (1997)
- MIRABEL, I. F. The Superluminal Source GRS 1915+105: A High Mass X-Ray Binary? I. F. Mirabel, R. Bandyopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodríguez. 477, L45 (1997)
- Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel. 477, L85 (1997)
- MIRALDA-ESCUDE, JORDI. High-Redshift Supernovae and the Metal-poor Halo Stars: Signatures of the First Generation of Galaxies. Jordi Miralda-Escudé & Martin J. Rees. 478, L57 (1997)
- MIROSHNICHENKO, ANATOLY. On Protostellar Disks in Herbig Ae/Be Stars: Erratum. Anatoly Miroshnichenko, Željko Ivezić, & Moshe Eliuzur. 479, L153 (1997) (Orig. paper in 475, L41 (1997))
- MITCHELL, J. W. See CHEN, C.-X., et al. Relativistic Interaction of ${}^{22}\text{Ne}$ and ${}^{26}\text{Mg}$ in Hydrogen and the Cosmic-Ray Implications.
- MIYAMA, S. M. Global Spiral Modes in a Three-Phase Gravitating Disk. N. Kikuchi, V. Korchagin, & S. M. Miyama. 478, 446 (1997)
- MOATS, A. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- MOFFAT, ANTONY F. J. O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from Hubble Space Telescope Ultraviolet Observations. Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat. 478, 340 (1997)
- MOHANTY, G. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- MOHAPATRA, R. N. Structures in the Mirror Universe. R. N. Mohapatra & Vidgor L. Teplitz. 478, 29 (1997)
- MOISEEV, A. A. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- MOLLERACH, SILVIA. Kicked Neutron Stars and Microlensing. Silvia Mollerach & Esteban Roulet. 479, 147 (1997)
- MONSIGNORI-FOSSI, BRUNELLA C. The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with Yohkoh/SXT and in the Extreme-Ultraviolet with SERTS. Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi. 477, 969 (1997)
- MORAN, EDWARD C. The Complex Broadband X-Ray Spectrum of the Starburst Galaxy M82. Edward C. Moran & Matthew D. Lehnert. 478, 172 (1997)
- MOREIRA, M. C. H₂ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos. 479, L71 (1997)
- MORGAN, EDWARD H. Rossi X-Ray Timing Explorer Discovery of Coherent Millisecond Pulsations during an X-Ray Burst from KS 1731-260. Donald A. Smith, Edward H. Morgan, & Hale Bradt. 479, L137 (1997)
- MORI, MASAKI. The Galactic Diffuse Gamma-Ray Spectrum from Cosmic-Ray Proton Interactions. Masaki Mori. 478, 225 (1997)
- MORI, MASAO. The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto. 478, L21 (1997)
- MORRIS, S. L. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- Redshift Evolution of Galaxy Cluster Densities. R. G. Carlberg, S. L. Morris, H. K. C. Yee, & E. Ellingson. 479, L19 (1997)
- MOULD, JEREMY R. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- MOZURKEWICH, D. See QUIRRENBACH, A., et al. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars.
- MÜLLER, E. Morphology and Dynamics of Relativistic Jets. J. M^a. Martí, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina. 479, 151 (1997)

- MUKHERJEE, R. See TAVANI, M., et al. Discovery of a Non-blazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838–04.
- MUNAKATA, K. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the *GEOTAIL* and the *WIND* Spacecrafts.
- MUÑOZ-TUÑÓN, CASIANA. Nuclear Starburst Hydrodynamics. *Guillermo Tenorio-Tagle & Casiana Muñoz-Tuñón*. 478, 134 (1997)
- MURAKAMI, H. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the *GEOTAIL* and the *WIND* Spacecrafts.
- MURIEL, HERNAN. The Luminosity Function of Galaxies in Clusters. *Carlos A. Valotto, Mariano A. Nicotra, Hernan Muriel, & Diego G. Lambas*. 479, 90 (1997)
- MUSHOTZKY, R. F. *ASCA* Observations of Seyfert 1 Galaxies. II. Relativistic Iron K α Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob*. 477, 602 (1997)
- MYERS, P. C. Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes*. 478, 295 (1997)
- NAHAR, SULTANA N. Electron-Ion Recombination of Neutral Iron. *Sultana N. Nahar, Manuel A. Bautista, & Anil K. Pradhan*. 479, 497 (1997)
- NAKAMOTO, A. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the *GEOTAIL* and the *WIND* Spacecrafts.
- NAKAMURA, FUMITAKA. Gravitational Contraction of Rotating Clouds: Formation of Self-similarly Collapsing Disks. *Tomoaki Matsumoto, Tomoyuki Hanawa, & Fumitaka Nakamura*. 478, 569 (1997)
- NAKASATO, NAOHITO. Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio*. 477, 865 (1997)
- NANDRA, K. *ASCA* Observations of Seyfert 1 Galaxies. II. Relativistic Iron K α Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob*. 477, 602 (1997)
- NARAYAN, RAMESH. Advection-dominated Accretion and Black Hole Event Horizons. *Ramesh Narayan, Michael R. Garcia, & Jeffrey E. McClintock*. 478, L79 (1997)
- NAVARRO, J. The Proper Motion and Parallax of PSR J0437–4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)
- NAVARRO, JULIO F. The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. *Julio F. Navarro & Mathias Steinmetz*. 478, 13 (1997)
- NEFF, SUSAN G. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher*. 478, 516 (1997)
- NELSON, ROBERT W. See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301–2.
- NEWBERRY, MIKE. A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Salkanen, & Mike Newberry*. 477, 144 (1997)
- NICHOL, R. C. On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol*. 479, L117 (1997)
- NICOTRA, MARIANO A. The Luminosity Function of Galaxies in Clusters. *Carlos A. Valotto, Mariano A. Nicotra, Hernan Muriel, & Diego G. Lambas*. 479, 90 (1997)
- NITTA, N. Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara*. 478, L41 (1997)
- NOLTHENIUS, RICHARD. The Small-Scale Velocity Dispersion of Galaxies: A Comparison of Cosmological Simulations. *Rachel S. Somerville, Joel Primack, & Richard Nolthenius*. 479, 606 (1997)
- NOMOTO, KEN'ICHI. Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio*. 477, 865 (1997)
- The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. *Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto*. 478, L21 (1997)
- NORTHCOOT, MALCOLM J. Adaptive Optics 0''2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves*. 478, 766 (1997)
- NOTA, ANTONELLA. O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from *Hubble Space Telescope* Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat*. 478, 340 (1997)
- The Structure of the Super-Star Clusters in NGC 1569 from *Hubble Space Telescope* WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi*. 479, L27 (1997)
- NOVIKOV, I. D. Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick*. 479, 164 (1997)
- NOWAK, MICHAEL A. The 67 Hz Feature in the Black Hole Candidate GRS 1915+105 as a Possible "Diskoseismic" Mode. *Michael A. Nowak, Robert V. Wagoner, Mitchell C. Begelman, & Dana E. Lehr*. 477, L91 (1997)
- NOYES, ROBERT W. Radii and Distances of Cepheids. I. Method and Measurement Errors. *Martin Krockenberger, Dimitar D. Sasselov, & Robert W. Noyes*. 479, 875 (1997)
- O'BRIEN, P. T. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- O'CONNELL, ROBERT W. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher*. 478, 516 (1997)
- O'DONNELL, JAMES E. Dust Grain Size Distributions and the Abundance of Refractory Elements in the Diffuse Interstellar Medium. *James E. O'Donnell & John S. Mathis*. 479, 806 (1997)
- OELFKE CLARK, CHRISTINA. An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren*. 478, 638 (1997)
- OEMLER, AUGUSTUS, JR. A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher*. 479, 70 (1997)
- OETLIKER, M. The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon. *M. Oetliker, B. Klecker, D. Hovestadt, G. M. Mason, J. E. Mazur, R. A. Leske, R. A. Mewaldt, J. B. Blake, & M. D. Looper*. 477, 495 (1997)
- O'FLAHERTY, K. S. Is X-Ray Absorption from Quasar Absorption-Line Systems Detectable? *K. S. O'Flaherty & P. Jakobsen*. 479, 673 (1997)
- OGAWARA, Y. Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara*. 478, L41 (1997)
- OHASHI, TAKAYA. The Iron Discrepancy in Elliptical Galaxies after *ASCA*. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini*. 477, 128 (1997)
- OHISHI, M. Hydrogenation of Interstellar Molecules: A Survey for Methylenimine (CH₂NH). *J. E. Dickens, W. M. Irvine, C. H. DeVries, & M. Ohishi*. 479, 307 (1997)
- OHISHI, MASATOSHI. SiO Maser Sources toward the Sagittarius B2 Molecular Cloud. *Shigetomo Shiki, Masatoshi Ohishi, & Shuji Deguchi*. 478, 206 (1997)
- OLIVE, KEITH A. Low-Mass Stars and the ³He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Thuran*. 479, 752 (1997)
- OLOFSSON, GÖRAN. Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tanja Liljeström & Göran Olofsson*. 478, 381 (1997)
- O'NEIL, EARL J., JR. The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of

- the Stellar Initial Mass Function. *Deidre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair*. 478, 124 (1997)
- ORAN, E. S. Deflagration-to-Detonation Transition in Thermonuclear Supernovae. *A. M. Khokhlov, E. S. Oran, & J. C. Wheeler*. 478, 678 (1997)
- ORMES, J. F. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- OROSZ, JEROME A. Optical Observations of GRO J1655-40 in Quiescence. I. A Precise Mass for the Black Hole Primary. *Jerome A. Orosz & Charles D. Bailyn*. 477, 876 (1997)
- An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655-40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock*. 478, L83 (1997)
- ORTOLANI, SERGIO. On Calibrating Brightest Asymptotic Giant Branch Stars as Age Indicators: The Bulge Globular Cluster NGC 6553 and the Age of M32. *Maria Donata Guarnieri, Alvio Renzini, & Sergio Ortolani*. 477, L21 (1997)
- OSCOZ, ALEJANDRO. Time Delay of QSO 0957+561 and Cosmological Implications. *Alejandro Osoz, Evencio Mediavilla, Luis Julián Goicoechea, Miquel Serra-Ricart, & Jesús Buitrago*. 479, L89 (1997)
- OSGOOD, D. E. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mauskopf, D. E. Osgood, & A. E. Lange*. 479, 17 (1997)
- PACIESAS, W. S. Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel*. 477, L85 (1997)
- The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs*. 477, L95 (1997)
- See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminous Jet Source GRO J1655-40 during an Outburst.
- See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- PADGETT, DEBORAH L. *Hubble Space Telescope* WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. *Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez*. 477, 705 (1997)
- PAERELS, F. B. S. Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels*. 478, 94 (1997)
- PAGE, DANY. Fast Cooling of Neutron Stars: Superfluidity versus Heating and Accreted Envelope. *Dany Page*. 479, L43 (1997)
- PAGE, L. A. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- PAGLIONE, TIMOTHY A. D. A 2000 M_{\odot} Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto*. 478, 614 (1997)
- PALLA, FRANCESCO. ^3He in Planetary Nebulae: A Challenge to Stellar Evolution Models. *Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla*. 477, 218 (1997)
- PALUMBO, G. G. C. *ASCA* and *ROSAT* X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali*. 478, 492 (1997)
- PALUMBO, M. E. Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. *M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens*. 479, 839 (1997)
- PANAGIA, NINO. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker*. 477, 848 (1997)
- PARADOPOULOS, PADELI P. High-Resolution ^{13}CO and C^{18}O $J = 1-0$ Observations of NGC 1068: Molecular Gas Properties of a High $\text{C}^{18}\text{O}/^{13}\text{CO}$ Intensity Ratio: Erratum. *Padeli P. Papadopoulos, E. R. Seaquist, & N. Z. Scoville*. 477, 518 (1997) (Orig. paper in 465, 173, 165-D12 (1996))
- PARK, H.-S. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- PASQUALI, ANNA. O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from *Hubble Space Telescope* Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat*. 478, 340 (1997)
- PATAT, F. Discovery of a Bow Shock around Vela X-1: Erratum. *L. Kaper, J. Th. van Loon, T. Augaustein, P. Goudfroi, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra*. 479, L153 (1997) (Orig. paper in 475, L37 (1997))
- PATTEN, BRIAN M. Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa*. 479, 776 (1997)
- PEIMBERT, ANTONIO. Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert*. 477, 265 (1997)
- PENCE, W. D. X-Ray Properties of the NGC 1961 Group of Galaxies. *W. D. Pence & A. H. Rois*. 478, 107 (1997)
- PENDELTON, G. N. See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- PENNY, LAURA R. Photospheric Heating in Colliding-Wind Binaries. *Douglas R. Gies, William G. Bagnuolo, Jr., & Laura R. Penny*. 479, 408 (1997)
- PENNYPACKER, C. R. High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middledich, J. Kristian, & C. R. Pennyacker*. 477, 465 (1997)
- PERCIVAL, M. J. Accretion Disks around Kerr Black Holes: Vertical Equilibrium Revisited. *M. A. Abramowicz, A. Lanza, & M. J. Percival*. 479, 179 (1997)
- PEREYRA, NICOLAS ANTONIO. Hydrodynamical Models of Line-driven Accretion Disk Winds. *Nicolas Antonio Pereyra, Timothy R. Kallman, & John M. Blondin*. 477, 368 (1997)
- PÉREZ, ENRIQUE. The Stellar Content of Giant H II Regions in NGC 7714. *María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Diaz, & Elena Terlevich*. 478, 112 (1997)
- PERLMAN, E. The Wide-Angle *ROSAT* Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner*. 477, 79 (1997)
- PERLMUTTER, S. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- PETERS, W. L. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- PETERSON, B. A. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- PETERSON, B. M. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- PETERSON, BRADLEY M. A Long-Term Study of Broad Emission Line Profile Variability in NGC 5548: Erratum. *Ignaz Wanders & Bradley M. Peterson*. 477, 990 (1997) (Orig. paper in 466, 174, 184-F8 (1996))
- PETHICK, C. J. Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick*. 479, 164 (1997)
- PETTINI, MAX. Dust in High-Redshift Galaxies. *Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead*. 478, 536 (1997)
- PHELPS, RANDY. See Kelson, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the *Hubble Space Telescope*: Erratum.
- PHELPS, RANDY L. Spatial Distribution of Embedded Clusters in the Rosette Molecular Cloud: Implications for Cluster Formation. *Randy L. Phelps & Elizabeth A. Lada*. 477, 176 (1997)
- See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.

- PHILLIPS, ANDREW C. See VOGT, NICOLE P., et al. Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems.
- PHILLIPS, K. J. H. YOHKO Observations as a Means of Checking S, Ca, and Fe Coronal Abundances and He-like Ionization Fractions. *K. J. H. Phillips & U. Feldman*. 477, 502 (1997)
- PHILLIPS, T. G. Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. *T. R. Hunter, T. G. Phillips, & K. M. Menten*. 478, 283 (1997)
- PINER, B. GLENN. VLBI Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham*. 479, 684 (1997)
- PIPHER, JUDITH L. The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. *Eric M. Howard, David W. Koerner, & Judith L. Pipher*. 477, 738 (1997)
- POOLEY, GUY. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- POPHAM, ROBERT. Heating of a Star by Disk Accretion. *Robert Popham*. 478, 734 (1997)
- PORTER, N. A. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- POTEKHIN, ALEXANDER Y. Cooling Neutron Stars with Accreted Envelopes. *Gilles Chabrier, Alexander Y. Potekhin, & Dmitry G. Yakovlev*. 477, L99 (1997)
- POTENZA, R. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- POUQUET, A. Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet*. 478, 594 (1997)
- PRADHAN, ANIL K. Electron-Ion Recombination of Neutral Iron. *Sultana N. Nahar, Manuel A. Bautista, & Anil K. Pradhan*. 479, 497 (1997)
- PRAKASH, MADAPPA. Neutrino Scattering in a Newly Born Neutron Star. *Sanjay Reddy & Madappa Prakash*. 478, 689 (1997)
- PRATON, ELIZABETH A. The Bull's-Eye Effect: Are Galaxy Walls Observationally Enhanced? *Elizabeth A. Praton, Adrian L. Melott, & Margaret Q. McKee*. 479, L15 (1997)
- PRATT, M. R. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- PREECE, R. D. See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- PRESTWICH, ANDREA H. A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkanen, & Mike Newberry*. 477, 144 (1997)
- PRIALNIK, DINA. The Composition of Nova Ejecta from Multicycle Evolution Models. *Attay Kovetz & Dina Prialnik*. 477, 356 (1997)
- A Model for the Distant Activity of Comet Hale-Bopp. *Dina Prialnik*. 478, L107 (1997)
- PRIMACK, JOEL. The Small-Scale Velocity Dispersion of Galaxies: A Comparison of Cosmological Simulations. *Rachel S. Somerville, Joel Primack, & Richard Nolthenius*. 479, 606 (1997)
- PRIMACK, JOEL R. Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack*. 479, 580 (1997)
- A Reanalysis of Small-Scale Velocity Dispersion in the CfA1 Survey. *Rachel S. Somerville, Marc Davis, & Joel R. Primack*. 479, 616 (1997)
- PRINCE, THOMAS A. A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepthi Chakrabarty, & Thomas A. Prince*. 479, 388 (1997)
- See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2.
- PRINGLE, J. E. Precessing Jets in Supersoft X-Ray Sources. *K. A. Southwell, M. Livio, & J. E. Pringle*. 478, L29 (1997)
- PROSSER, CHARLES F. Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa*. 479, 776 (1997)
- PUCHALLA, J. L. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- QIAO, G. J. Three Modes of Pulsar Inner Gap. *B. Zhang, G. J. Qiao, W. P. Lin, & J. L. Han*. 478, 313 (1997)
- QUATAERT, ELIOT J. Differential Rotation Enhanced Dissipation of Tides in the PSR J0045-7319 Binary. *Pawan Kumar & Eliot J. Quataert*. 479, L51 (1997)
- QUINN, J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- QUINN, P. J. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- QUINN, THOMAS. Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn*. 477, L5 (1997)
- QUIRRENBACH, A. Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars. *A. Quirrenbach, K. S. Bjorkman, J. E. Bjorkman, C. A. Hummel, D. F. Buscher, J. T. Armstrong, D. Mozurkewich, N. M. Elias II, & B. L. Babler*. 479, 477 (1997)
- RADFORD, S. J. E. The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett*. 478, 144 (1997)
- RAJAGOPAL, MOHAN. Magnetized Iron Atmospheres for Neutron Stars. *Mohan Rajagopal, Roger W. Romani, & M. Coleman Miller*. 479, 347 (1997)
- RAMATY, REUVEN. The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trottet*. 479, 458 (1997)
- RANDICH, SOFIA. Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa*. 479, 776 (1997)
- RANSOM, S. M. High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleditch, J. Kristian, & C. R. Pennypacker*. 477, 465 (1997)
- RASIO, FREDERIC A. Distant Companions and Planets around Millisecond Pulsars. *Kriten J. Joshi & Frederic A. Rasio*. 479, 948 (1997)
- RAWLINGS, STEVE. See SAUNDERS, RICHARD, et al. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- RAWSON, DAYA M. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- REAMES, D. V. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- REDDY, SANJAY. Neutrino Scattering in a Newly Born Neutron Star. *Sanjay Reddy & Madappa Prakash*. 478, 689 (1997)
- REES, MARTIN J. High-Redshift Supernovae and the Metal-poor Halo Stars: Signatures of the First Generation of Galaxies. *Jordi Miralda-Escudé & Martin J. Rees*. 478, L57 (1997)
- REFREGIER, ALEXANDRE. Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies. *Alexandre Refregier, David J. Helfand, & Richard G. McMahon*. 477, 58 (1997)
- Gravitational Lensing of the X-Ray Background by Clusters of Galaxies. *Alexandre Refregier & Abraham Loeb*. 478, 476 (1997)
- REICHERT, G. A. See MARSHALL, H. L., et al. The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet.
- REMAE EVANS, NANCY. The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remae Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson*. 477, 916 (1997)
- REMILLARD, R. E. The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs*. 477, L95 (1997)
- REMILLARD, RONALD A. An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655-40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock*. 478, L83 (1997)

- REMINGTON, B. A. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell*. 478, L75 (1997)
- RENZINI, ALVIO. The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini*. 477, 128 (1997)
- On Calibrating Brightest Asymptotic Giant Branch Stars as Age Indicators: The Bulge Globular Cluster NGC 6553 and the Age of M32. *Maria Donata Guarnieri, Alvio Renzini, & Sergio Ortolani*. 477, L21 (1997)
- REPHAELI, Y. Intracuster Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio*. 479, 1 (1997)
- REYNOLDS, J. E. The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven*. 479, 845 (1997)
- RICHICHI, ANDREA. High-Resolution Infrared Observations of GGD 27. *Brinfried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage*. 479, 339 (1997)
- RIEKE, G. H. Infrared Spectroscopy of Blue Dwarf Galaxies. *L. Vanzi & G. H. Rieke*. 479, 694 (1997)
- RIX, HANS-WALTER. Lopsided Spiral Galaxies and a Limit on the Galaxy Accretion Rate. *Dennis Zaritsky & Hans-Walter Rix*. 477, 118 (1997)
- ROBERTS, D. A. BIMA ^{13}CO Observations of W3. *D. A. Roberts, R. M. Crutcher, & T. H. Troland*. 479, 318 (1997)
- ROBERTS, LEWIS C. Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts*. 478, 211 (1997)
- ROBERTS, MORTON S. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher*. 478, 516 (1997)
- ROBINSON, C. R. Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodriguez, & I. F. Mirabel*. 477, L85 (1997)
- ROBINSON, RICHARD. The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson*. 477, 916 (1997)
- ROBINSON, RICHARD D. GHRS Observations of Cool, Low-Gravity Stars. III. Plasma Flows and Turbulence in the Outer Atmosphere of α Orionis (M2 lab). *Kenneth G. Carpenter & Richard D. Robinson*. 479, 970 (1997)
- RODDIER, CLAUDE. Adaptive Optics 0''.2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves*. 478, 766 (1997)
- RODDIER, FRANÇOIS. Adaptive Optics 0''.2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves*. 478, 766 (1997)
- RODGERS, A. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- RODGERS, A. W. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- RODRIGUEZ, L. F. The Superaluminous Source GRS 1915+105: A High Mass X-Ray Binary? *I. F. Mirabel, R. Bandopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodriguez*. 477, L45 (1997)
- Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodriguez, & I. F. Mirabel*. 477, L85 (1997)
- ROESLER, FRED L. Variations in Optical S⁺ Emission from the Io Plasma Torus: Evidence for Quasi Periodicity. *R. Carey Woodward, Jr., Frank Scherb, & Fred L. Roesler*. 479, 984 (1997)
- ROGAVA, ANDRIA D. Escaping Radio Emission from Pulsars: Possible Role of Velocity Shear. *Swadesh M. Mahajan, George Z. Machabeli, & Andria D. Rogava*. 479, L129 (1997)
- ROMANI, ROGER W. Magnetized Iron Atmospheres for Neutron Stars. *Mohan Rajagopal, Roger W. Romani, & M. Coleman Miller*. 479, 347 (1997)
- ROMER, A. K. On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol*. 479, L117 (1997)
- ROSA, MICHAEL R. Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa*. 477, 679 (1997)
- ROSE, H. J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- ROSENFELD, GADY. The High Eccentricity of the Planet Orbiting 16 Cygni B. *Tsevi Mazeh, Yuval Krymowski, & Gady Rosenfeld*. 477, L103 (1997)
- ROSSI, S. C. F. The Near-Infrared Na I Doublet Feature in M Stars. *R. P. Schiavon, B. Barbuy, S. C. F. Rossi, & A. Milone*. 479, 902 (1997)
- ROTH, ILAN. Enrichment of ^3He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin*. 477, 940 (1997)
- ROTS, A. H. X-Ray Properties of the NGC 1961 Group of Galaxies. *W. D. Pence & A. H. Rots*. 478, 107 (1997)
- RÖTTGERING, HUUB. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B.
- ROULET, ESTEBAN. Kicked Neutron Stars and Microlensing. *Silvia Mollerach & Esteban Roulet*. 479, 147 (1997)
- ROY, JEAN-RENÉ. Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa*. 477, 679 (1997)
- RUBENCHIK, A. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell*. 478, L75 (1997)
- RUBIN, BRADLEY C. See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2.
- RUBIN, ROBERT H. Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. *Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson*. 479, 332 (1997)
- RUDERMAN, MALVIN. Pulsed e^{\pm} Annihilation γ -Ray Line from a Crab-like Pulsar. *Tianhua Zhu & Malvin Ruderman*. 478, 701 (1997)
- RUDNICK, L. A Spectral Analysis of Two Compact Steep-Spectrum Sources. *D. M. Katz-Stone & L. Rudnick*. 479, 258 (1997)
- RUHL, J. E. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- RUIZ COBO, B. Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados*. 478, L45 (1997)
- RUSSO, G. V. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- RYAN, J. M. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- RYBICKI, GEORGE B. Properties of Statistical Equilibrium Equations: Positivity and Uniqueness. *George B. Rybicki*. 479, 357 (1997)
- RYDEN, BARBARA S. NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakar, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils*. 479, 702 (1997)
- SABA, J. L. R. Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong*. 477, 509 (1997)
- SABA, JULIA L. R. The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with Yohkoh/SXT and in the Extreme-Ultraviolet with SERTS. *Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi*. 477, 969 (1997)
- SAHA, ABHIJIT. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.

- See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 using the *Hubble Space Telescope*: Erratum.
- SAHU, M. S. Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego*. 478, 648 (1997)
- SAIO, HIDEYUKI. Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio*. 477, 865 (1997)
- SAITO, SHUJI. The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto*. 478, 631 (1997)
- SAITO, Y. Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821–24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni*. 477, L37 (1997)
- SAKAI, SHOKO. See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the *Hubble Space Telescope*. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum*. 478, 49 (1997)
- SALARIS, M. The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss*. 479, 665 (1997)
- SALZER, JOHN J. The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Marsha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner*. 477, L1 (1997)
- SAMUELSON, F. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- SANDFORD, SCOTT A. The 2140 cm^{-1} (4.673 Micron) Solid CO Band: The Case for Interstellar O_2 and N_2 and the Photochemistry of Nonpolar Interstellar Ice Analogs. *Jamie Elsila, Louis J. Allamandola, & Scott A. Sandford*. 479, 818 (1997)
- SANDHU, J. S. The Proper Motion and Parallax of PSR J0437–4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)
- SANDQUIST, ERIC L. Composition Mixing during Blue Straggler Formation and Evolution. *Eric L. Sandquist, Michael Bolte, & Lars Hernquist*. 477, 335 (1997)
- SANTOS, JOÃO F. C., JR. Integrated Near-Infrared Colors of Star Clusters: Analysis of the Stochastic Effects on the Initial Mass Function. *João F. C. Santos, Jr., & Jay A. Frogel*. 479, 764 (1997)
- SANTOS, N. C. H_2 Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos*. 479, L71 (1997)
- SANZ, J. L. Peaks in the Cosmic Microwave Background: Flat versus Open Models. *R. B. Barreiro, J. L. Sanz, E. Martínez-González, L. Cayón, & Joseph Silk*. 478, 1 (1997)
- SARAZIN, CRAIG L. Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin*. 477, L53 (1997)
- SASSELOV, DIMITAR D. Radii and Distances of Cepheids. I. Method and Measurement Errors. *Martin Krockenberger, Dimitar D. Sasselov, & Robert W. Noyes*. 479, 875 (1997)
- SATO, JUN. Hot and Superhot Plasmas above an Impulsive Flare Loop. *Saku Tsuneta, Satoshi Masuda, Takeo Kosugi, & Jun Sato*. 478, 787 (1997)
- SATO, KATSUHIKO. Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato*. 477, 294 (1997)
- SAUNDERS, RICHARD. See JONES, MICHAEL E., et al. Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B. Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B. *Richard Saunders, Joanne C. Baker, Malcolm N. Bremer, Andrew J. Bunker, Garret Cotter, Steve Eales, Keith Grainge, Toby Haynes, Michael E. Jones, Mark Lacy, Guy Pooley, & Steve Rawlings*. 479, L5 (1997)
- SAVY, S. K. Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara*. 478, L41 (1997)
- SAXE, DAVID H. *Hubble Space Telescope* Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider*. 479, 642 (1997)
- SAZONOV, S. See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655–40 during an Outburst.
- SCHADE, DAVID. Evolution of Cluster Ellipticals at $0.2 < z < 1.2$ from *Hubble Space Telescope* Imaging. *David Schade, L. Felipe Barrientos, & Omar López-Cruz*. 477, L17 (1997)
- SCHARF, C. A. The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner*. 477, 79 (1997)
- SCHERB, FRANK. Variations in Optical S^+ Emission from the Io Plasma Torus: Evidence for Quasi Periodicity. *R. Carey Woodward, Jr., Frank Scherb, & Fred L. Roesler*. 479, 984 (1997)
- SCHIAVON, R. P. The Near-Infrared Na I Doublet Feature in M Stars. *R. P. Schiavon, B. Barbuy, S. C. F. Rossi, & A. Milone*. 479, 902 (1997)
- SCHIEDER, R. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the $[\text{C I}]$ Fine-Structure Submillimeter-Wave Transitions.
- SCHILD, RUDOLF. SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? *Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen*. 479, 678 (1997)
- SCHMELZ, J. T. Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong*. 477, 509 (1997)
- SCHMIDT, M. Intrinsic Profiles of Strong Diffuse Interstellar Bands. *J. Krelowski & M. Schmidt*. 477, 209 (1997)
- SCHMITT, HENRIQUE R. A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. *Henrique R. Schmitt, Anne L. Kinney, Thaisa Storchi-Bergmann, & Robert Antonucci*. 477, 623 (1997)
- SCHMITT, J. H. M. M. The ROSAT All-Sky Survey of Active Binary Coronae. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. *Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmitt*. 478, 358 (1997)
- SCHMUTZ, WERNER. O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from *Hubble Space Telescope* Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat*. 478, 340 (1997)
- SCHNEIDER, DONALD P. *Hubble Space Telescope* Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider*. 479, 642 (1997)
- SCHNEIDER, STEPHEN E. A Warped Disk Model for M33 and the 21 Centimeter Line Width in Spiral Galaxies. *Edvige Corbelli & Stephen E. Schneider*. 479, 244 (1997)
- SCHRAMM, DAVID N. On the Significance of Population II ^6Li Abundances. *Martin Lemoine, David N. Schramm, James W. Truran, & Craig J. Copi*. 478, 554 (1997)
- Low-Mass Stars and the ^3He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Truran*. 479, 752 (1997)
- SCHUBNEL, M. S. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- SCHÜHLE, U. Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle*. 477, L119 (1997)
- SCHWEIZER, FRANÇOIS. ROSAT HRI Observations of NGC 4038/4039, "The Antennae" Galaxies. *G. Fabbiano, François Schweizer, & G. Mackie*. 478, 542 (1997)
- SCOTT, D. MATTHEW. A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834–430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakraborty, & Thomas A. Prince*. 479, 388 (1997)
- SCOVILLE, N. Z. High-Resolution ^{13}CO and C^{18}O $J = 1-0$ Observations of NGC 1068: Molecular Gas Properties of a High $\text{C}^{18}\text{O}/^{13}\text{CO}$ Intensity Ratio: Erratum. *Padeli P. Papadopoulos, E. R. Seaquist, & N. Z. Scoville*. 477, 518 (1997) (Orig. paper in 465, 173, 165-D12 (1996))

- Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford.* 479, L9 (1997)
- SCULLY, SEAN T. Low-Mass Stars and the ^3He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Turan.* 479, 752 (1997)
- SEAQUIST, E. R. High-Resolution ^{13}CO and C^{18}O $J = 1-0$ Observations of NGC 1068: Molecular Gas Properties of a High $\text{C}^{18}\text{O}/^{13}\text{CO}$ Intensity Ratio: Erratum. *Padelis P. Papadopoulos, E. R. Seaquist, & N. Z. Scoville.* 477, 518 (1997) (Orig. paper in 465, 173, 165-D12 (1996))
- SEMBROSKI, G. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- SENGUPTA, SUJAN. General Relativistic Effects on the Ohmic Decay of Crustal Magnetic Fields in Neutron Stars. *Sujan Sengupta.* 479, L133 (1997)
- SEON, KWANG-IL. Results of *Ginga/ROSAT* Simultaneous Observation of the X-Ray Burst Source 1735-444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs.* 479, 398 (1997)
- SERLEMITSOS, P. J. X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemitsos.* 477, 424 (1997)
- SERRA-RICART, MIQUEL. Time Delay of QSO 0957+561 and Cosmological Implications. *Alejandro Osoez, Evencio Mediavilla, Luis Julián Goicoechea, Miquel Serra-Ricart, & Jesús Buitrago.* 479, L89 (1997)
- SHAHBAZ, T. The Superluminous Source GRS 1915+105: A High Mass X-Ray Binary? *I. F. Mirabel, R. Bandyopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodríguez.* 477, L45 (1997)
- SHANDARIN, SERGEI F. Demonstrating Discreteness and Collision Error in Cosmological N -Body Simulations of Dark Matter Gravitational Clustering. *Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto.* 479, L79 (1997)
- SHAPAKIDZE, D. Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakidze.* 479, 313 (1997)
- SHAPIRO, PAUL R. Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac.* 479, 46 (1997)
- SHARPLES, R. M. On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol.* 479, L117 (1997)
- SHARPLES, RAY M. A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher.* 479, 70 (1997)
- SHEPHERD, C. W. The Real Space and Redshift Space Correlation Functions at Redshift $z = 1/3$. *C. W. Shepherd, R. G. Carlberg, H. K. C. Yee, & E. Ellingson.* 479, 82 (1997)
- SHIBATA, K. Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara.* 478, L41 (1997)
- SHIBATA, S. Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821-24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni.* 477, L37 (1997)
- SHIGEYAMA, TOSHIKAZU. Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio.* 477, 865 (1997)
- SHIKI, SHIGETOMO. SiO Maser Sources toward the Sagittarius B2 Molecular Cloud. *Shigetomo Shiki, Masatoshi Ohishi, & Shuji Deguchi.* 478, 206 (1997)
- SHIMIZU, TOSHIKAZU. Nonthermal Radio Emission from Solar Soft X-Ray Transient Brightenings. *Dale E. Gary, Michael D. Harl, & Toshifumi Shimizu.* 477, 958 (1997)
- SHIOYA, YASUHIRO. Formation of Boxy and Disky Elliptical Galaxies in Early Dissipative Mergers. *Kenji Bekki & Yasuhiro Shioya.* 478, L17 (1997)
- SHIPMAN, R. F. Cirrus Color Variations Due to Enhanced Radiation Fields. *Sean J. Carey, R. F. Shipman, F. O. Clark, & Rob Assendorp.* 479, 303 (1997)
- SHIRAI, H. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the *GEOTAIL* and the *WIND* Spacecrafts.
- SHLOSMAN, ISAAC. Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bottorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford.* 479, 200 (1997)
- SILBERMANN, N. A. See GRAHAM, JOHN A., et al. The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- SILK, JOSEPH. Peaks in the Cosmic Microwave Background: Flat versus Open Models. *R. B. Barreiro, J. L. Sanz, E. Martínez-González, L. Cayón, & Joseph Silk.* 478, 1 (1997)
- SILVERBERG, R. F. See INMAN, C. A., et al. A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92.
- SIMON, R. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the $[\text{C I}]$ Fine-Structure Submillimeter-Wave Transitions.
- SIMON, THEODORE. Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa.* 479, 776 (1997)
- SIMPSON, JANET P. Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. *Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson.* 479, 332 (1997)
- SINCELL, MARK W. Multiwavelength Variability of the Synchrotron Self-Compton Model for Blazar Emission. *Mark W. Sincell.* 477, 574 (1997)
- SIRK, MARTIN. EUV Observations of EX Hydrae: 10^7 K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko.* 477, 390 (1997)
- SKIBO, JEFFREY G. Spallation of Iron in Black Hole Accretion Flows. *Jeffrey G. Skibo.* 478, 522 (1997)
- SKILLMAN, EVAN D. *Hubble Space Telescope* Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa.* 477, 679 (1997)
- SKINNER, STEPHEN L. A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from *ASCA/EUVE* Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner.* 479, 416 (1997)
- SKRUTSKIE, M. F. The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie.* 477, 817 (1997)
- SLATER, G. L. Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara.* 478, L41 (1997)
- SLAVIN, JONATHAN. An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua. Chu, & Dave Van Buren.* 478, 638 (1997)
- SLYSH, V. I. Detection of a New Methanol Maser Line with the Kitt Peak 12 Meter Telescope by Remote Observing from Moscow. *V. I. Slysh, S. V. Kalenskii, I. E. Val'its, & V. V. Golubev.* 478, L37 (1997)
- SMALL, IAN. A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher.* 479, 70 (1997)
- SMALE, A. P. X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemitsos.* 477, 424 (1997)
- SMETTE, ALAIN. Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette.* 479, 868 (1997)
- SMITH, ANDREW M. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell,*

- Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher. 478, 516 (1997)
- SMITH, DONALD A. Rossi X-Ray Timing Explorer Discovery of Coherent Millisecond Pulsations during an X-Ray Burst from KS 1731–260. Donald A. Smith, Edward H. Morgan, & Hale Bradt. 479, L137 (1997)
- SMITH, ERIC P. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher. 478, 516 (1997)
- SMITH, I. A. Physical Model of Gamma-Ray Burst Spectral Evolution. Edison Liang, Masaaki Kusunose, I. A. Smith, & A. Crider. 479, L35 (1997)
- See CRIDER, A., et al. Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts.
- SMITH, LINDA J. Dust in High-Redshift Galaxies. Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead. 478, 536 (1997)
- SMITH, RODNEY. More Satellites of Spiral Galaxies. Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White. 478, 39 (1997)
- Anisotropies in the Distribution of Satellite Galaxies. Dennis Zaritsky, Rodney Smith, Carlos S. Frenk, & Simon D. M. White. 478, L53 (1997)
- SOLOMON, P. M. The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett. 478, 144 (1997)
- SOMERVILLE, RACHEL S. The Small-Scale Velocity Dispersion of Galaxies: A Comparison of Cosmological Simulations. Rachel S. Somerville, Joel Primack, & Richard Nolthenius. 479, 606 (1997)
- A Reanalysis of Small-Scale Velocity Dispersion in the CfA1 Survey. Rachel S. Somerville, Marc Davis, & Joel R. Primack. 479, 616 (1997)
- SOMMERS, PAUL. Extremely High Energy Neutrinos and Their Detection. Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers. 479, 547 (1997)
- SONNEBORN, GEORGE. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker. 477, 848 (1997)
- SOUTHWELL, K. A. Precessing Jets in Supersoft X-Ray Sources. K. A. Southwell, M. Livio, & J. E. Pringle. 478, L29 (1997)
- SOUTOUL, A. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- SPLINTER, RANDALL J. The Ellipticity and Orientation of Clusters of Galaxies in N-Body Experiments. Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker. 479, 632 (1997)
- Demonstrating Discreteness and Collision Error in Cosmological N-Body Simulations of Dark Matter Gravitational Clustering. Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto. 479, L79 (1997)
- SRIANAND, R. Origin of the Spread in the $B - K$ Color of Quasars. R. Srianand & Ajit Kembhavi. 478, 70 (1997)
- Radiation-induced Void in the Spectrum of Tol 1038–2712. R. Srianand. 478, 511 (1997)
- SRINIVASAN, R. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- STADEL, JOACHIM. Prospects for Cosmology with Cluster Mass Profiles. Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn. 477, L5 (1997)
- STAGUHN, J. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- STANCHFIELD, DONALD C. H., II. The Vector Magnetic Field, Evershed Flow, and Intensity in a Sunspot. Donald C. H. Stanchfield II, John H. Thomas, & Bruce W. Lites. 477, 485 (1997)
- STANCL, P. C. Stimulated Radiative Association of Li and H in the Early Universe. P. C. Stancl & A. Dalgarno. 479, 543 (1997)
- STANEK, K. Z. Modeling the Galactic Bar Using Red Clump Giants. K. Z. Stanek, A. Udalski, M. Szymański, J. Kubiak, M. Kubiak, M. Mateo, & W. Krzemiński. 477, 163 (1997)
- STANEV, TODOR. Ultra-High-Energy Cosmic Rays and the Large-Scale Structure of the Galactic Magnetic Field. Todor Stanev. 479, 290 (1997)
- STANGHELLINI, LETIZIA. ^3He in Planetary Nebulae: A Challenge to Stellar Evolution Models. Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla. 477, 218 (1997)
- STARK, ANTONY A. Atomic Carbon in Southern Hemisphere High-Latitude Clouds. James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark. 479, 296 (1997)
- STAUFFER, JOHN R. Periodic X-Ray Emission from the O7 V Star θ^1 Orionis C. Marc Gagné, Jean-Pierre Caillault, John R. Stauffer, & Jeffrey L. Linsky. 478, L87 (1997)
- Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchira Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa. 479, 776 (1997)
- STAVELEY-SMITH, L. The Asymmetric Radio Remnant of SN 1987A. B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven. 479, 845 (1997)
- STECHEER, THEODORE P. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher. 478, 516 (1997)
- STECKLUM, BRINGFRIED. High-Resolution Infrared Observations of GGD 27. Bringfried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage. 479, 339 (1997)
- STEFANIK, ROBERT P. The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. Guillermo Torres, Robert P. Stefanik, & David W. Latham. 479, 268 (1997)
- STEIMAN-CAMERON, THOMAS Y. Physical Conditions in the Photodissociation Region of NGC 2023. Thomas Y. Steiman-Cameron, Michael R. Haas, A. G. G. M. Tielens, & Michael G. Burton. 478, 261 (1997)
- STEINMETZ, MATTHIAS. The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. Julio F. Navarro & Matthias Steinmetz. 478, 13 (1997)
- STELLINGWERF, ROBERT F. Second Overtone Pulsators among δ Scuti Stars. Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf. 477, 346 (1997)
- STENCEL, ROBERT E. Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe. 477, 825 (1997)
- STEPHENS, S. A. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- STERLING, ALPHONSE C. S XV Spectral Properties of an Active Region from the Yohkoh Bragg Crystal Spectrometer. Alphonse C. Sterling. 478, 807 (1997)
- Electron Temperatures of the Corona above a Solar Active Region Determined from S XV Spectra. Alphonse C. Sterling, Hugh S. Hudson, & Tetsuya Watanabe. 479, L149 (1997)
- STETSON, PETER B. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- STOCHAJ, S. J. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- STOLL, J. B. Relative Band Oscillator Strengths for Carbon Monoxide: A $^1\Pi-X^1\Sigma^+$ Transitions. S. R. Federman, K. L. Menningen, Wei Lee, & J. B. Stoll. 477, L61 (1997)
- STORCHI-BERGMANN, THAISA. A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. Henrique R. Schmitt, Anne L. Kinney, Thaisa Storchi-Bergmann, & Robert Antonucci. 477, 623 (1997)

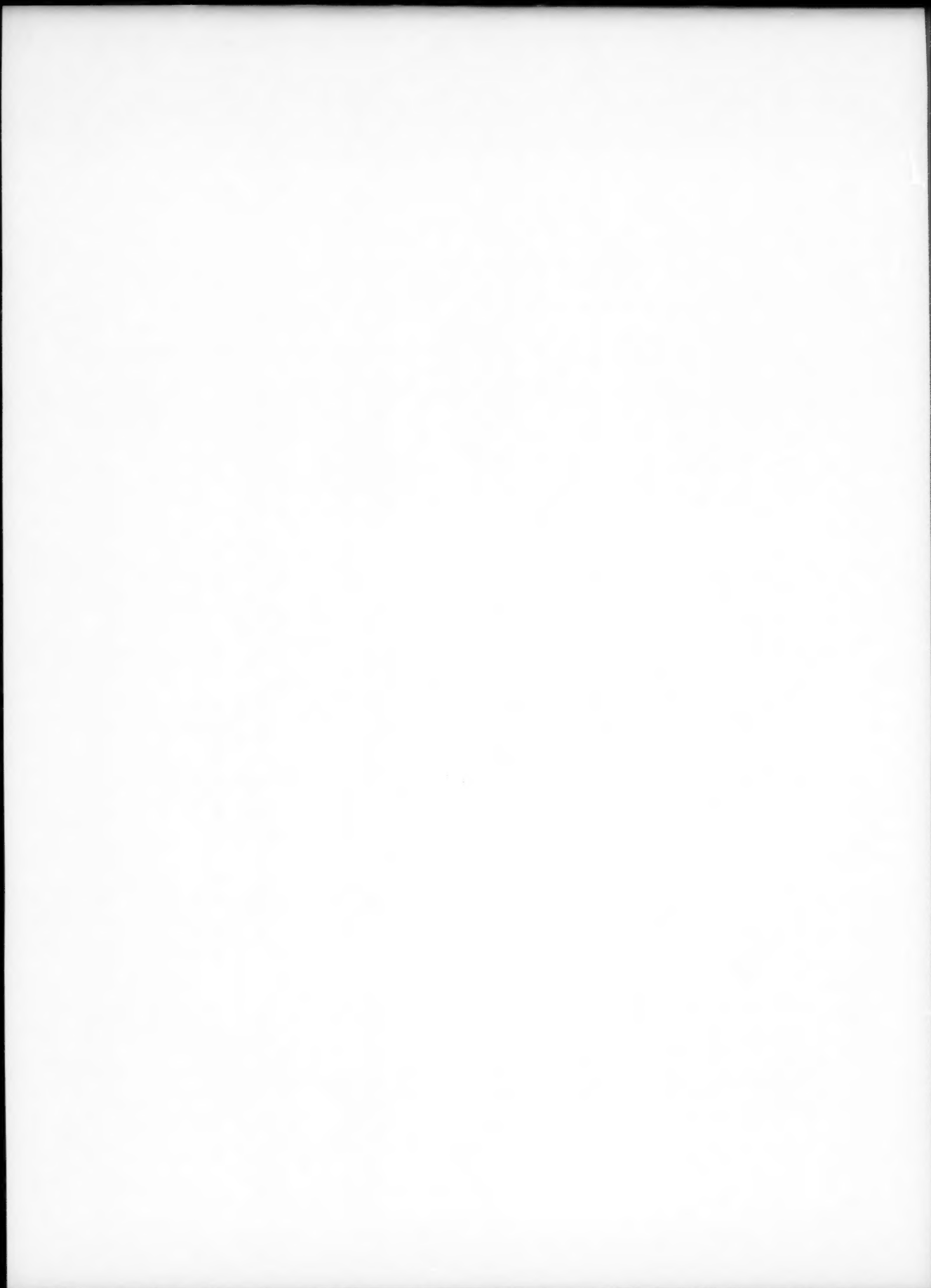
- STOTHERS, RICHARD B. The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin*. 478, L103 (1997)
- STRANGES, D. Neutral-Neutral Reactions in the Interstellar Medium. I. Formation of Carbon Hydride Radicals via Reaction of Carbon Atoms with Unsaturated Hydrocarbons. *R. I. Kaiser, D. Stranges, Y. T. Lee, & A. G. Suits*. 477, 982 (1997)
- STRANIERO, OSCAR. Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini*. 478, 332 (1997)
- STRAUSS, MICHAEL A. Testing the Hubble Law with the IRAS 1.2 Jy Redshift Survey. *Daniel M. Koranyi & Michael A. Strauss*. 477, 36 (1997)
- STREITMATTER, R. E. See GOLDEN, R. L., et al. Search for Antihelium in the Cosmic Rays.
- STROHMAYER, T. E. Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal*. 479, L47 (1997)
- STROM, STEPHEN E. Hubble Space Telescope WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. *Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez*. 477, 705 (1997)
- STRONG, K. T. Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong*. 477, 509 (1997)
- STUBBS, C. W. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- STUTZKI, J. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions. *J. Stutzki, U. U. Graf, S. Haas, C. E. Honingh, D. Huttenroth, K. Jacobs, R. Schieder, R. Simon, J. Staguhn, G. Winnewisser, R. N. Martin, W. L. Peters, & J. P. McMullin*. 477, L33 (1997)
- SUH, KYUNG-WON. Superwind Models for the Dust Shells around OH/IR Stars. *Kyung-Won Suh & Terry J. Jones*. 479, 918 (1997)
- SUITS, A. G. Neutral-Neutral Reactions in the Interstellar Medium. I. Formation of Carbon Hydride Radicals via Reaction of Carbon Atoms with Unsaturated Hydrocarbons. *R. I. Kaiser, D. Stranges, Y. T. Lee, & A. G. Suits*. 477, 982 (1997)
- SULKANEN, MARTIN. A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkkanen, & Mike Newberry*. 477, 144 (1997)
- SUMIYOSHI, Y. Laboratory Detection of the C₅N Radical by Fourier-Transform Microwave Spectroscopy. *Y. Kasai, Y. Sumiyoshi, Y. Endo, & K. Kawaguchi*. 477, L65 (1997)
- SUNYAEV, R. See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst.
- See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- SUTHERLAND, R. S. New Herbig-Haro Flows in L1448 and L1455. *J. Bally, David Devine, Victoria Allen, & R. S. Sutherland*. 478, 603 (1997)
- SUTHERLAND, W. See ALCOCK, C., et al. The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data.
- SUTO, YASUSHI. Demonstrating Discreteness and Collision Error in Cosmological N-Body Simulations of Dark Matter Gravitational Clustering. *Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto*. 479, L79 (1997)
- SWANK, J. H. X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemis*. 477, 424 (1997)
- SWANK, JEAN H. The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingning Chen, Jean H. Swank, & Ronald E. Taam*. 477, L41 (1997)
- SWEETLAND, C. Formation of a Solar Filament Channel. *V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs*. 479, 448 (1997)
- SZYMAŃSKI, M. Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kahuźny, M. Kubiak, M. Matteo, & W. Krzeminski*. 477, 163 (1997)
- SZYMKOWIAK, ANDREW E. X-Ray Emission from Dust in Hot Plasmas. *Kazimierz J. Borkowski & Andrew E. Szymkowiak*. 477, L49 (1997)
- TAAM, R. E. Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benensohn, D. Q. Lamb, & R. E. Taam*. 478, 723 (1997)
- TAAM, RONALD E. The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingning Chen, Jean H. Swank, & Ronald E. Taam*. 477, L41 (1997)
- TAKAHASHI, T. See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst.
- TAKASHIMA, T. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts. *T. Takashima, T. Doke, T. Hayashi, J. Kikuchi, M. Kobayashi, H. Shirai, N. Takehana, M. Ehara, Y. Yamada, S. Yanagita, N. Hasebe, T. Kashiwagi, C. Kato, K. Munakata, T. Kohno, K. Kondoh, H. Murakami, A. Nakamoto, T. Yanagimachi, D. V. Reames, & T. T. von Rosenvinge*. 477, L111 (1997)
- TAKEHANA, N. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts.
- TAVANI, M. Discovery of a Nonblazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04. *M. Tavani, R. Mukherjee, J. R. Mattox, J. Halpern, D. J. Thompson, G. Kanbach, W. Hersen, S. N. Zhang, & R. S. Foster*. 479, L109 (1997)
- TAVANI, MARCO. Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259-63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons*. 477, 439 (1997)
- TEMERIN, MICHAEL. Enrichment of ³He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin*. 477, 940 (1997)
- TENORIO-TAGLE, GUILLERMO. Nuclear Starburst Hydrodynamics. *Guillermo Tenorio-Tagle & Casiana Muñoz-Tuñón*. 478, 134 (1997)
- TEPLITZ, VIGDOR L. Structures in the Mirror Universe. *R. N. Mohapatra & Vigdor L. Teplitz*. 478, 29 (1997)
- TEREKHOV, O. V. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- TERLEVICH, ELENA. The Stellar Content of Giant H II Regions in NGC 7714. *María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Diaz, & Elena Terlevich*. 478, 112 (1997)
- TERZIAN, YERVANT. The Timescale Correlation Method: Distances to Planetary Nebulae with Halos. *Arsen R. Hajian, Adam Frank, Bruce Balick, & Yervant Terzian*. 477, 226 (1997)
- TESTARD, O. See CHEN, C.-X., et al. Relativistic Interaction of ²²Ne and ²⁶Mg in Hydrogen and the Cosmic-Ray Implications.
- THAKAR, ANIRUDDHA R. NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakar, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils*. 479, 702 (1997)
- THOMAS, JOHN H. The Vector Magnetic Field, Evershed Flow, and Intensity in a Sunspot. *Donald C. H. Stanchfield II, John H. Thomas, & Bruce W. Lites*. 477, 485 (1997)
- THOMAS, ROGER J. The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with Yohkoh/SXT and in the Extreme-Ultraviolet with SERTS. *Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi*. 477, 969 (1997)
- THOMPSON, D. J. See TAVANI, M., et al. Discovery of a Non-blazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04.
- THUAN, TRINH X. Hubble Space Telescope Observations of the Blue Compact Dwarf SBS 0335-052: A Probable Young Galaxy. *Trinh X. Thuan, Yuri I. Izotov, & Valentin A. Lipovetsky*. 477, 661 (1997)
- TIELENS, A. G. G. M. Physical Conditions in the Photodissociation Region of NGC 2023. *Thomas Y. Steiman-Cameron, Michael R. Haas, A. G. G. M. Tielens, & Michael G. Burton*. 478, 261 (1997)
- Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. *M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens*. 479, 839 (1997)

- TIMMES, F. X. Constraints from ^{26}Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann*. 479, 760 (1997)
- TINKER, JEREMY. The Ellipticity and Orientation of Clusters of Galaxies in N-Body Experiments. *Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker*. 479, 632 (1997)
- TOLSTOY, ELINE. The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks*. 478, 530 (1997)
- TONER, C. G. Restoration of Long-Exposure Full-Disk Solar Intensity Images. *C. G. Toner, S. M. Jefferies, & T. L. Duvall, Jr.* 478, 817 (1997)
- TORRES, GUILLERMO. The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. *Guillermo Torres, Robert P. Stefanik, & David W. Latham*. 479, 268 (1997)
- TOSI, MONICA. ^3He in Planetary Nebulae: A Challenge to Stellar Evolution Models. *Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla*. 477, 218 (1997)
- The Structure of the Super-Star Clusters in NGC 1569 from Hubble Space Telescope WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi*. 479, L27 (1997)
- TROLAND, T. H. BIMA ^{13}CO Observations of W3. *D. A. Roberts, R. M. Crutcher, & T. H. Troland*. 479, 318 (1997)
- TROTTER, G. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- TROTTER, GERARD. The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuben Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotter*. 479, 458 (1997)
- TRURAN, JAMES W. On the Significance of Population II ^6Li Abundances. *Martin Lemoine, David N. Schramm, James W. Truran, & Craig J. Copi*. 478, 554 (1997)
- Low-Mass Stars and the ^3He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Truran*. 479, 752 (1997)
- TSUJIMOTO, TAKUJI. The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. *Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto*. 478, L21 (1997)
- TSUNETA, SAKU. Hot and Superhot Plasmas above an Impulsive Flare Loop. *Saku Tsuneta, Satoshi Masuda, Takeo Kosugi, & Jun Sato*. 478, 787 (1997)
- TUCCI, MARCO. Statistical Tests for CHDM and ΛCDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack*. 479, 580 (1997)
- TULL, C. E. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- TURNER, ANNE. See GRAHAM, JOHN A., et al. The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351.
- See KELSON, DANIEL D., et al. The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum.
- TURNER, T. J. ASCA Observations of Seyfert 1 Galaxies. II. Relativistic Iron $K\alpha$ Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob*. 477, 602 (1997)
- TUVÉ, C. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- TZIOMIS, A. K. The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven*. 479, 845 (1997)
- UDALSKI, A. Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kahuźny, M. Kubiak, M. Mattei, & W. Krzemiński*. 477, 163 (1997)
- UEDA, Y. See ZHANG, S. N., et al. Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655–40 during an Outburst.
- UMEMOTO, TOMOFUMI. The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hiromi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto*. 478, 631 (1997)
- UMEMURA, MASAYUKI. Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige*. 479, L97 (1997)
- VALINIA, AZITA. Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac*. 479, 46 (1997)
- VALOTTO, CARLOS A. The Luminosity Function of Galaxies in Clusters. *Carlos A. Valotto, Mariano A. Nicotra, Hernan Muriel, & Diego G. Lambas*. 479, 90 (1997)
- VAL'TTS, I. E. Detection of a New Methanol Maser Line with the Kitt Peak 12 Meter Telescope by Remote Observing from Moscow. *V. I. Slysh, S. V. Kalenskii, I. E. Val'ts, & V. V. Golubev*. 478, L37 (1997)
- VAN BUREN, DAVE. An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren*. 478, 638 (1997)
- VAN DER KLIS, M. Discovery in 4U 1636–53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers*. 479, L141 (1997)
- An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs*. 479, L145 (1997)
- VAN DER KLIS, MICHEL. Results of Ginga/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735–444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs*. 479, 398 (1997)
- The EXOSAT Data on GX 339–4: Further Evidence for an "Intermediate" State. *Mariano Méndez & Michiel van der Klis*. 479, 926 (1997)
- VAN DOKKUM, PIETER G. Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant*. 478, L13 (1997)
- VAN LOON, J. TH. Discovery of a Bow Shock around Vela X-1: Erratum. *L. Kaper, J. Th. van Loon, T. Augusteijn, P. Goudfrooij, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra*. 479, L153 (1997) (Orig. paper in 475, L37 (1997))
- VAN PARADIJS, J. The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs*. 477, L95 (1997)
- Discovery in 4U 1636–53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers*. 479, L141 (1997)
- An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs*. 479, L145 (1997)
- VAN PARADIJS, JAN. Results of Ginga/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735–444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs*. 479, 398 (1997)
- VANZI, L. Infrared Spectroscopy of Blue Dwarf Galaxies. *L. Vanzì & G. H. Rieke*. 479, 694 (1997)
- VAUGHAN, B. Discovery in 4U 1636–53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers*. 479, L141 (1997)
- VAUGHAN, BRIAN A. See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301–2.
- VEILLEUX, SYLVAIN. Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill*. 477, 631 (1997)
- Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn*. 479, L105 (1997)
- VIETRI, MARIO. The Soft X-Ray Afterglow of Gamma-Ray Bursts, A Stringent Test for the Fireball Model. *Mario Vietri*. 478, L9 (1997)
- VIGNALI, C. ASCA and ROSAT X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri,*

- W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali. 478, 492 (1997)
- VILCHEZ, JOSÉ M. Recent Star Formation in Groups of Galaxies: HCG 31. *Jorge Iglesias-Páramo & José M. Vilchez*. 479, 190 (1997)
- VILHU, O. The Distance of the Soft Gamma Repeater SGR 1806–20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay*. 478, 624 (1997)
- VILMER, N. See DEBRUNNER, H., et al. Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event.
- VISHNIAC, ETHAN T. The Growth Rate of Tidally Excited Waves in Accretion Disks: Erratum. *Ethan T. Vishniac & Changsong Zhang*. 477, 516 (1997) (Orig. paper in 461, 307, 92-B13 (1996))
- Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac*. 479, 46 (1997)
- VITTORIO, N. Intracluster Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio*. 479, 1 (1997)
- VIVEKANAND, M. The Drifting Behavior of PSR 0031–07. *M. Vivekanand & B. C. Joshi*. 477, 431 (1997)
- VOGT, NICOLE P. Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems. *Nicole P. Vogt, Andrew C. Phillips, S. M. Faber, Jesús Gallego, Caryl Gronwall, R. Guzmán, Garth D. Illingworth, David C. Koo, & J. D. Lowenthal*. 479, L121 (1997)
- VOLK, KEVIN. A Self-consistent Photoionization–Dust Continuum–Molecular Line Transfer Model of NGC 7027. *Kevin Volk & Sun Kwok*. 477, 722 (1997)
- VON ROSENVINGE, T. T. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecraft.
- WADDINGTON, C. J. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- WAGONER, ROBERT V. The 67 Hz Feature in the Black Hole Candidate GRS 1915+105 as a Possible “Diskoseismic” Mode. *Michael A. Nowak, Robert V. Wagoner, Mitchell C. Begelman, & Dana E. Lehr*. 477, L91 (1997)
- WALKER, CHRISTOPHER K. HCO^+ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR 21 Star-forming Region. *Jason Glenn, Christopher K. Walker, & P. R. Jewell*. 479, 325 (1997)
- WALLACE, R. Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell*. 478, L75 (1997)
- WALLER, WILLIAM H. See HILL, JESSE K., et al. Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51).
- WALLYN, P. The Distance of the Soft Gamma Repeater SGR 1806–20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay*. 478, 624 (1997)
- WALSH, J. R. Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa*. 477, 679 (1997)
- WAMSTEKER, WILLEM. The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamstecker*. 477, 848 (1997)
- WANDERS, IGNAZ. A Long-Term Study of Broad Emission Line Profile Variability in NGC 5548: Erratum. *Ignaz Wanders & Bradley M. Peterson*. 477, 990 (1997) (Orig. paper in 466, 174, 184-F8 (1996))
- WANG, F. Y.-H. A Broadband X-Ray Study of the Geminga Pulsar. *J. P. Halpern & F. Y.-H. Wang*. 477, 905 (1997)
- WANG, J. Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Niita, G. L. Slater, S. K. Savy, & Y. Ogawara*. 478, L41 (1997)
- WARREN, H. P. Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle*. 477, L119 (1997)
- WATANABE, T. Investigating the Nonthermal Velocity of Small GOES-Class Flares Observed by Yohkoh. *L. K. Harra-Murnion, K. Akita, & T. Watanabe*. 479, 464 (1997)
- WATANABE, TETSUYA. Electron Temperatures of the Corona above a Solar Active Region Determined from S XV Spectra. *Alphonse C. Sterling, Hugh S. Hudson, & Tetsuya Watanabe*. 479, L149 (1997)
- WATERS, L. B. F. M. Discovery of a Bow Shock around Vela X-1: Erratum. *L. Kaper, J. Th. van Loon, T. Augusteijn, P. Goudfroid, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra*. 479, L153 (1997) (Orig. paper in 475, L37 (1997))
- WEBBER, W. R. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- WEEKES, T. C. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- WEFEL, J. P. See CHEN, C.-X., et al. Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications.
- WEGNER, G. The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner*. 477, 79 (1997)
- WEGNER, GARY. The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner*. 477, L1 (1997)
- WEINBERG, DAVID H. Photoionization, Numerical Resolution, and Galaxy Formation. *David H. Weinberg, Lars Hernquist, & Neal Katz*. 477, 8 (1997)
- Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz*. 477, 21 (1997)
- WEINBERG, MARTIN D. The Fate of Cannibalized Fundamental-Plane Elliptical Galaxies. *Martin D. Weinberg*. 478, 435 (1997)
- WEISS, A. The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl’Innocenti, & A. Weiss*. 479, 665 (1997)
- WELCH, WILLIAM J. Resolving Redshifted Molecular Absorption toward the Gravitational Lens PKS 1830–211. *Brenda Frye, William J. Welch, & Tom Broadhurst*. 478, L25 (1997)
- WERNER, M. W. Galactic Abundance Gradients from Infrared Fine-Structure Lines in Compact H II Regions. *A. Afleverbach, E. Churchwell, & M. W. Werner*. 478, 190 (1997)
- WHEELER, J. C. Deflagration-to-Detonation Transition in Thermonuclear Supernovae. *A. M. Khokhlov, E. S. Oran, & J. C. Wheeler*. 478, 678 (1997)
- WHITE, MARTIN. The Damping Tail of Cosmic Microwave Background Anisotropies. *Wayne Hu & Martin White*. 479, 568 (1997)
- WHITE, N. E. The Nature of the “6 Second” and Related X-Ray Pulsars: Evolutionary and Dynamical Considerations. *Pranab Ghosh, L. Angelini, & N. E. White*. 478, 713 (1997)
- WHITE, RICHARD L. The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. *Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand*. 479, L93 (1997)
- WHITE, SIMON D. M. More Satellites of Spiral Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White*. 478, 39 (1997)
- Anisotropies in the Distribution of Satellite Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White*. 478, L53 (1997)
- WIDING, KENNETH G. Stellar Coronal Abundances. V. Evidence for the First Ionization Potential Effect in α Centauri. *Jeremy J. Drake, J. Martin Laming, & Kenneth G. Widing*. 478, 403 (1997)
- WIJNANDS, R. A. D. Discovery in 4U 1636–53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers*. 479, L141 (1997)
- WILBANKS, T. M. The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Moskopp, D. E. Osgood, & A. E. Lange*. 479, 17 (1997)
- WILHELM, K. Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle*. 477, L119 (1997)
- WILKES, BELINDA J. The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell*. 477, 93 (1997)
- The X-Ray Warm Absorber in NGC 3516. *Smita Mathur, Belinda J. Wilkes, & Thomas Aldcroft*. 478, 182 (1997)

- WILLIAMS, W. JOHN. Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. *Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe.* 477, 825 (1997)
- WILSON, C. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- WILSON, COLLEEN A. A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince.* 479, 388 (1997)
- WILSON, ROBERT B. A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince.* 479, 388 (1997)
- See KOH, DANNY T., et al. Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2.
- WINNEWISSER, G. See STUTZKI, J., et al. Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions.
- WIRTH, GREGORY D. On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? *David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth.* 478, L49 (1997)
- WOLF-CHASE, GRACE A. Possible Infall around the Intermediate-Mass Young Stellar Object NGC 2264 IRS. *Grace A. Wolf-Chase & Erik Gregersen.* 479, L67 (1997)
- WOLFF, MICHAEL J. Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson.* 478, 395 (1997)
- WOLKOVITCH, DEBRA. Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. *Debra Wolkovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer.* 477, 241 (1997)
- WOO, JONATHAN W. Astrophysical Extended X-Ray Absorption Fine-Structure Analysis. *Jonathan W. Woo, Robert C. Forrey, & Kyeongjae Cho.* 477, 235 (1997)
- WOOD, BRIAN E. Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres.* 478, 745 (1997)
- WOOD, KENNETH. Scattering and Dichroic Extinction: Polarimetric Signatures of Galaxies. *Kenneth Wood.* 477, L25 (1997)
- Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman.* 477, 926 (1997)
- WOODWARD, CHARLES E. The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skruskie.* 477, 817 (1997)
- WOODWARD, R. CAREY, JR. Variations in Optical S⁺ Emission from the Io Plasma Torus: Evidence for Quasi Periodicity. *R. Carey Woodward, Jr., Frank Scherb, & Fred L. Roesler.* 479, 984 (1997)
- WOON, DAVID E. The Rate of the Reaction between CN and C₂H₂ at Interstellar Temperatures. *David E. Woon & Eric Herbst.* 477, 204 (1997)
- WU, CHI-CHAO. Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin.* 477, L53 (1997)
- WU, M. Test for Cosmological Time Dilation in Long Gamma-Ray Bursts. *H. Che, Y. Yang, M. Wu, & T. P. Li.* 477, L69 (1997)
- WU, XIANG-PING. Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu.* 477, 560 (1997)
- XIE, G. Z. The Relation between Gamma-Ray and Near-Infrared Radiation in Gamma-Ray-loud Blazars. *G. Z. Xie, Y. H. Zhang, & J. H. Fan.* 477, 114 (1997)
- XU, CHUN. On the Observational Evidence for Accretion Disks in Active Galactic Nuclei. *Mario Livio & Chun Xu.* 478, L63 (1997)
- YAKOVLEV, DMITRY G. Cooling Neutron Stars with Accreted Envelopes. *Gilles Chabrier, Alexander Y. Potekhin, & Dmitry G. Yakovlev.* 477, L99 (1997)
- YAMADA, Y. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts.
- YAMAMOTO, SATOSHI. The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto.* 478, 631 (1997)
- YANAGIMACHI, T. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts.
- YANAGITA, S. See TAKASHIMA, T., et al. The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts.
- YANG, KWANG-SUP. Classical Electron-Ion Coulomb Bremsstrahlung in Weakly Coupled Plasmas. *Young-Dae Jung & Kwang-Sup Yang.* 479, 912 (1997)
- YANG, Y. Test for Cosmological Time Dilation in Long Gamma-Ray Bursts. *H. Che, Y. Yang, M. Wu, & T. P. Li.* 477, L69 (1997)
- YAOQOUB, T. ASCA Observations of Seyfert 1 Galaxies. II. Relativistic Iron K α Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob.* 477, 602 (1997)
- YAOQOUB, TAHIR. X-Ray Transmission in Cold Matter: Nonrelativistic Corrections for Compton Scattering. *Tahir Yaqoob.* 479, 184 (1997)
- YEE, H. K. C. H α Imaging of the Candidate Protogalaxy MS 1512-cB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellingson.* 477, L29 (1997)
- The Average Mass and Light Profiles of Galaxy Clusters. *R. G. Carlberg, H. K. C. Yee, & E. Ellingson.* 478, 462 (1997)
- The Real Space and Redshift Space Correlation Functions at Redshift $z = 1/3$. *C. W. Shepherd, R. G. Carlberg, H. K. C. Yee, & E. Ellingson.* 479, 82 (1997)
- Redshift Evolution of Galaxy Cluster Densities. *R. G. Carlberg, S. L. Morris, H. K. C. Yee, & E. Ellingson.* 479, L19 (1997)
- YI, INSU. A Laboratory for Magnetized Accretion Disk Model: Ultraviolet and X-Ray Emission from Cataclysmic Variable GK Persei. *Insu Yi & Scott J. Kenyon.* 477, 379 (1997)
- YOSHIDA, KENJI. Results of Ginga/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735-444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs.* 479, 398 (1997)
- YOSHIDA, SHIGERU. Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers.* 479, 547 (1997)
- YOSHII, YUZURU. The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. *Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto.* 478, L21 (1997)
- YOUNG, TIMOTHY R. Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio.* 477, 865 (1997)
- YU, T. BIMA Observations of the VLA 1623 Molecular Outflow. *T. Yu & L. M. Chemin.* 479, L63 (1997)
- YUN, J. L. H₂ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos.* 479, L71 (1997)
- YUN, M. S. Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford.* 479, L9 (1997)
- ZARITSKY, DENNIS. Lopsided Spiral Galaxies and a Limit on the Galaxy Accretion Rate. *Dennis Zaritsky & Hans-Walter Rix.* 477, 118 (1997)
- More Satellites of Spiral Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White.* 478, 39 (1997)
- Anisotropies in the Distribution of Satellite Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos S. Frenk, & Simon D. M. White.* 478, L53 (1997)
- ZHANG, B. Three Modes of Pulsar Inner Gap. *B. Zhang, G. J. Qiao, W. P. Lin, & J. L. Han.* 478, 313 (1997)
- ZHANG, CHANGSONG. The Growth Rate of Tidally Excited Waves in Accretion Disks: Erratum. *Ethan T. Vishniac & Changsong Zhang.* 477, 516 (1997) (Orig. paper in 461, 307, 92-B13 (1996))
- ZHANG, HENG. Observations of p -Mode/ s -Mode Conversion in Magnetic Fields and Absorption of p -Modes by Sunspots. *Heng Zhang.* 479, 1012 (1997)
- ZHANG, S. N. Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas,*

- S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel. 477, L85 (1997)
- The 1996 Soft State Transition of Cygnus X-1. S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs. 477, L95 (1997)
- Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst. S. N. Zhang, K. Ebisawa, R. Sunyaev, Y. Ueda, B. A. Harmon, S. Sazonov, G. J. Fishman, H. Inoue, W. S. Paciesas, & T. Takahashi. 479, 381 (1997)
- See TAVANI, M., et al. Discovery of a Nonblazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04.
- ZHANG, Y. H. The Relation between Gamma-Ray and Near-Infrared Radiation in Gamma-Ray-loud Blazars. G. Z. Xie, Y. H. Zhang, & J. H. Fan. 477, 114 (1997)
- ZHANG, Z. D. Magnetic Reconnection by Langmuir Solitons. X. Q. Li & Z. D. Zhang. 479, 1028 (1997)
- ZHOU, SHUDONG. Observations of Molecular Clouds in the HH 1-2 Region. Minho Choi & Shudong Zhou. 477, 754 (1997)
- ZHU, TIANHUA. Pulsed e^{\pm} Annihilation γ -Ray Line from a Crab-like Pulsar. Tianhua Zhu & Malvin Ruderman. 478, 701 (1997)
- ZIJLSTRA, A. A. Discovery of a Bow Shock around Vela X-1: Erratum. L. Kaper, J. Th. van Loon, T. Augusteijn, P. Goudfrooij, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra. 479, L153 (1997) (Orig. paper in 475, L37 (1997))
- ZIRIN, HAROLD. New Data and Models of Running Penumbra Waves in Sunspots. Walter F. Briskin & Harold Zirin. 478, 814 (1997)
- ZIRKER, J. B. Formation of a Solar Filament Channel. V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs. 479, 448 (1997)
- ZUO, LIN. The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons. 477, 568 (1997)
- ZWEERINK, J. See CONNAUGHTON, V., et al. A Search for TeV Counterparts to BATSE Gamma-Ray Bursts.
- ZWEIBEL, ELLEN G. Current Sheet Formation in the Interstellar Medium. Ellen G. Zweibel & Axel Brandenburg. 478, 563 (1997)



SUBJECT INDEX

PARTS 1 & 2, VOLUMES 477-479

1997 MARCH 1 TO APRIL 20

ACCELERATION OF PARTICLES

- Enrichment of ^3He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin*. 477, 940 (1997)
- The Influence of Pickup, Anomalous, and Galactic Cosmic-Ray Protons on the Structure of the Heliospheric Shock: A Self-consistent Approach. *Jakobus A. le Roux & Horst Fichtner*. 477, L115 (1997)
- Electron Acceleration and the Production of Nonthermal Electron Distributions in Accretion Disk Coronae. *Hui Li & James A. Miller*. 478, L67 (1997)
- Ultra-High-Energy Cosmic Rays and the Large-Scale Structure of the Galactic Magnetic Field. *Todor Stanev*. 479, 290 (1997)
- The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotter*. 479, 458 (1997)

ACCRETION, ACCRETION DISKS

- Lopsided Spiral Galaxies and a Limit on the Galaxy Accretion Rate. *Dennis Zaritsky & Hans-Walter Rix*. 477, 118 (1997)
- The Composition of Nova Ejecta from Multicycle Evolution Models. *Atay Kovetz & Dina Prialnik*. 477, 356 (1997)
- Hydrodynamical Models of Line-driven Accretion Disk Winds. *Nicolas Antonio Pereyra, Timothy R. Kallman, & John M. Blondin*. 477, 368 (1997)
- A Laboratory for Magnetized Accretion Disk Model: Ultraviolet and X-Ray Emission from Cataclysmic Variable GK Persei. *Insu Yi & Scott J. Kenyon*. 477, 379 (1997)
- Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen*. 477, 398 (1997)
- The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingning Chen, Jean H. Swank, & Ronald E. Taam*. 477, L41 (1997)
- Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan*. 477, 585 (1997)
- Thermonuclear Burning on the Accreting X-Ray Pulsar GRO J1744-28. *Lars Bildsten & Edward F. Brown*. 477, 897 (1997)
- Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodriguez, & I. F. Mirabel*. 477, L85 (1997)
- The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs*. 477, L95 (1997)
- Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels*. 478, 94 (1997)
- Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tanja Liljeström & Göran Olofsson*. 478, 381 (1997)
- Precessing Jets in Supersoft X-Ray Sources. *K. A. Southwell, M. Livio, & J. E. Pringle*. 478, L29 (1997)
- A Funnel Flow Origin for CO Bandhead Emission in Young Stellar Objects. *Steven C. Martin*. 478, L33 (1997)
- Spallation of Iron in Black Hole Accretion Flows. *Jeffrey G. Skibo*. 478, 522 (1997)
- A Precessing Disk in OJ 287? *J. I. Katz*. 478, 527 (1997)
- Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benensohn, D. Q. Lamb, & R. E. Taam*. 478, 723 (1997)
- Heating of a Star by Disk Accretion. *Robert Popham*. 478, 734 (1997)
- Electron Acceleration and the Production of Nonthermal Electron Distributions in Accretion Disk Coronae. *Hui Li & James A. Miller*. 478, L67 (1997)
- Self-regulated Accretion Disks. *G. Bertin*. 478, L71 (1997)

- Advection-dominated Accretion and Black Hole Event Horizons. *Ramesh Narayan, Michael R. Garcia, & Jeffrey E. McClintock*. 478, L79 (1997)
- Accretion Disks around Kerr Black Holes: Vertical Equilibrium Revisited. *M. A. Abramowicz, A. Lanza, & M. J. Percival*. 479, 179 (1997)
- Accretion Disk Evolution with Wind Infall. I. General Solution and Application to Sagittarius A*. *Heino Falcke & Fulvio Melia*. 479, 740 (1997)
- Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige*. 479, L97 (1997)
- Discovery in 4U 1636-53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijmans, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers*. 479, L141 (1997)
- An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs*. 479, L145 (1997)

ASTROMETRY

- Satellite Parallaxes of Lensing Events toward the Galactic Bulge. *B. Scott Gaudi & Andrew Gould*. 477, 152 (1997)
- The Proper Motion and Parallax of PSR J0437-4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)

ATMOSPHERIC EFFECTS

- Restoration of Long-Exposure Full-Disk Solar Intensity Images. *C. G. Toner, S. M. Jefferies, & T. L. Duvall, Jr.* 478, 817 (1997)

ATOMIC DATA

- YOHKOH Observations as a Means of Checking S, Ca, and Fe Coronal Abundances and He-like Ionization Fractions. *K. J. H. Phillips & U. Feldman*. 477, 502 (1997)
- Transition Rates of the Intercombination UV0.01 Multiplet in N II. *Tomas Brage, Alan Hibbert, & David S. Leckrone*. 478, 423 (1997)
- Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego*. 478, 648 (1997)
- Neutrino Scattering in a Newly Born Neutron Star. *Sanjay Reddy & Madappa Prakash*. 478, 689 (1997)
- Electron-Ion Recombination of Neutral Iron. *Sultana N. Nahar, Manuel A. Bautista, & Anil K. Pradhan*. 479, 497 (1997)

ATOMIC PROCESSES

- The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini*. 477, 128 (1997)
- Astrophysical Extended X-Ray Absorption Fine-Structure Analysis. *Jonathan W. Woo, Robert C. Forrey, & Kyeongjae Cho*. 477, 235 (1997)
- Grains in Ionized Nebulae. II. Heavy-Element Depletion. *J. B. Kingdon & G. J. Ferland*. 477, 732 (1997)
- Ultraviolet Emission-Line Ratios of Cataclysmic Variables. *Christopher W. Mauche, Y. Paul Lee, & Timothy R. Kallman*. 477, 832 (1997)
- Structures in the Mirror Universe. *R. N. Mohapatra & Vigdor L. Teplitz*. 478, 29 (1997)
- Magnetized Iron Atmospheres for Neutron Stars. *Mohan Rajagopal, Roger W. Romani, & M. Coleman Miller*. 479, 347 (1997)
- Properties of Statistical Equilibrium Equations: Positivity and Uniqueness. *George B. Rybicki*. 479, 357 (1997)
- Accurate Hydrogen Spectral Simulations with a Compact Model Atom. *Jason W. Ferguson & Gary J. Ferland*. 479, 363 (1997)
- Effects of High Ion Temperatures on Spectral Line Diagnostics in the Source Region of the High-Speed Solar Wind. *N. S. Brickhouse & R. Esser*. 479, 470 (1997)

- Electron-Ion Recombination of Neutral Iron. *Sultana N. Nahar, Manuel A. Bautista, & Anil K. Pradhan.* 479, 497 (1997)
- Stimulated Radiative Association of Li and H in the Early Universe. *P. C. Stancil & A. Dalgarno.* 479, 543 (1997)
- Radiative Association Rates and Structure of Resonances for Li and Li⁺ Colliding with H and H⁺. *F. A. Gianturco & P. Gori Giorgi.* 479, 560 (1997)
- BALLOONS**
- A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92. *C. A. Inman, E. S. Cheng, D. A. Cottingham, D. J. Fixsen, M. S. Kowitt, S. S. Meyer, L. A. Page, J. L. Puchalla, J. E. Ruhl, & R. F. Silverberg.* 478, L1 (1997)
- Search for Antihelium in the Cosmic Rays. *R. L. Golden, S. J. Stochaj, S. A. Stephens, A. A. Moiseev, J. F. Ormes, R. E. Streitmatter, T. Bowen, A. Moats, & J. Lloyd-Evans.* 479, 992 (1997)
- BLACK HOLE PHYSICS**
- Ejection of Matter and Energy from NGC 4258. *E. M. Burbidge & G. Burbidge.* 477, L13 (1997)
- The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingming Chen, Jean H. Swank, & Ronald E. Taam.* 477, L41 (1997)
- Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan.* 477, 585 (1997)
- Optical Observations of GRO J1655-40 in Quiescence. I. A Precise Mass for the Black Hole Primary. *Jerome A. Orosz & Charles D. Bailyn.* 477, 876 (1997)
- Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel.* 477, L85 (1997)
- The 67 Hz Feature in the Black Hole Candidate GRS 1915+105 as a Possible "Diskoseismic" Mode. *Michael A. Nowak, Robert V. Wagoner, Mitchell C. Begelman, & Dana E. Lehr.* 477, L91 (1997)
- The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs.* 477, L95 (1997)
- Merging of Galaxies with Central Black Holes. II. Evolution of the Black Hole Binary and the Structure of the Core. *Junichiro Makino.* 478, 58 (1997)
- Spallation of Iron in Black Hole Accretion Flows. *Jeffrey G. Skibo.* 478, 522 (1997)
- Advection-dominated Accretion and Black Hole Event Horizons. *Ramesh Narayan, Michael R. Garcia, & Jeffrey E. McClintock.* 478, L79 (1997)
- An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655-40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock.* 478, L83 (1997)
- Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick.* 479, 164 (1997)
- Accretion Disks around Kerr Black Holes: Vertical Equilibrium Revisited. *M. A. Abramowicz, A. Lanza, & M. J. Percival.* 479, 179 (1997)
- Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Boutorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford.* 479, 200 (1997)
- Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst. *S. N. Zhang, K. Ebisawa, R. Sunyaev, Y. Ueda, B. A. Harmon, S. Sazonov, G. J. Fishman, H. Inoue, W. S. Paciesas, & T. Takahashi.* 479, 381 (1997)
- Accretion Disk Evolution with Wind Infall. I. General Solution and Application to Sagittarius A*. *Heino Falcke & Fulvio Melia.* 479, 740 (1997)
- The EXOSAT Data on GX 339-4: Further Evidence for an "Intermediate" State. *Mariano Méndez & Michiel van der Klis.* 479, 926 (1997)
- Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige.* 479, L97 (1997)
- An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs.* 479, L145 (1997)
- CATALOGS**
- More Satellites of Spiral Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White.* 478, 39 (1997)
- CELESTIAL MECHANICS, STELLAR DYNAMICS**
- On the Origin of Massive Eccentric Planets. *D. N. C. Lin & Shigeru Ida.* 477, 781 (1997)
- The High Eccentricity of the Planet Orbiting 16 Cygni B. *Tsevi Mazeh, Yuval Krymowski, & Gady Rosenfeld.* 477, L103 (1997)
- The Fate of Cannibalized Fundamental-Plane Elliptical Galaxies. *Martin D. Weinberg.* 478, 435 (1997)
- Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick.* 479, 164 (1997)
- Distant Companions and Planets around Millisecond Pulsars. *Krien J. Joshi & Frederic A. Rasio.* 479, 948 (1997)
- COMETS: GENERAL**
- The Effects of Radial Viscous Forces on the Structure of Accretion Disk Boundary Layers. *T. J. B. Collins.* 478, 417 (1997)
- A Model for the Distant Activity of Comet Hale-Bopp. *Dina Prialnik.* 478, L107 (1997)
- The Detection of a Dust Trail in the Orbit of an Earth-threatening Long-Period Comet. *P. Jenniskens, H. Beilein, M. de Lignie, & M. Langbroek.* 479, 441 (1997)
- COMETS: INDIVIDUAL**
- Name: Hale-Bopp 1995 O1**
- A Model for the Distant Activity of Comet Hale-Bopp. *Dina Prialnik.* 478, L107 (1997)
- CONVECTION**
- The Universe and Globular Clusters: An Age Conflict? *F. D'Antona, V. Caloi, & I. Mazzitelli.* 477, 519 (1997)
- Sub-Grid Scale Modeling: Correct Models and Others. *V. M. Canuto.* 478, 322 (1997)
- The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin.* 478, L103 (1997)
- COSMIC STRINGS**
- Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers.* 479, 547 (1997)
- COSMOLOGY: COSMIC MICROWAVE BACKGROUND**
- Peaks in the Cosmic Microwave Background: Flat versus Open Models. *R. B. Barreiro, J. L. Sanz, E. Martínez-González, L. Cayón, & Joseph Silk.* 478, 1 (1997)
- A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92. *C. A. Inman, E. S. Cheng, D. A. Cottingham, D. J. Fixsen, M. S. Kowitt, S. S. Meyer, L. A. Page, J. L. Puchalla, J. E. Ruhl, & R. F. Silverberg.* 478, L1 (1997)
- Intracuster Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio.* 479, 1 (1997)
- The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mauskopf, D. E. Osgood, & A. E. Lange.* 479, 17 (1997)
- Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A. *B. Michael E. Jones, Richard Saunders, Joanne C. Baker, Garret Cotter, Alastair Edge, Keith Grainge, Toby Haynes, Anthony Lasenby, Guy Pooley, & Huub Röttgering.* 479, L1 (1997)
- Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A. *B. Michael E. Jones, Richard Saunders, Joanne C. Baker, Malcolm N. Bremer, Andrew J. Bunker, Garret Cotter, Steve Eales, Keith Grainge, Toby Haynes, Michael E. Jones, Mark Lacy, Guy Pooley, & Steve Rawlings.* 479, L5 (1997)
- Stimulated Radiative Association of Li and H in the Early Universe. *P. C. Stancil & A. Dalgarno.* 479, 543 (1997)

- Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers*. 479, 547 (1997)
- The Damping Tail of Cosmic Microwave Background Anisotropies. *Wayne Hu & Martin White*. 479, 568 (1997)
- COSMOLOGY: DARK MATTER**
- Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn*. 477, L5 (1997)
- On the Origin of Cusps in Dark Matter Halos. *Toshiyuki Fukushige & Junichiro Makino*. 477, L9 (1997)
- Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu*. 477, 560 (1997)
- The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. *Julio F. Navarro & Matthias Steinmetz*. 478, 13 (1997)
- The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. *Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto*. 478, L21 (1997)
- Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews*. 479, 31 (1997)
- Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac*. 479, 46 (1997)
- Kicked Neutron Stars and Microlensing. *Silvia Mollerach & Esteban Roulet*. 479, 147 (1997)
- Evolution of Structure in the Intergalactic Medium and the Nature of the Ly α Forest. *HongGuang Bi & Arthur F. Davidsen*. 479, 523 (1997)
- Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Khypin, & Joel R. Primack*. 479, 580 (1997)
- Large-Scale Power Spectrum from Peculiar Velocities. *Tsafir Kolatt & Avishai Dekel*. 479, 592 (1997)
- Demonstrating Discreteness and Collision Error in Cosmological N -Body Simulations of Dark Matter Gravitational Clustering. *Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto*. 479, L79 (1997)
- COSMOLOGY: DIFFUSE RADIATION**
- Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies. *Alexandre Refregier, David J. Helfand, & Richard G. McMahon*. 477, 58 (1997)
- The Galactic Diffuse Gamma-Ray Spectrum from Cosmic-Ray Proton Interactions. *Masaki Mori*. 478, 225 (1997)
- COSMOLOGY: DISTANCE SCALE**
- Testing the Hubble Law with the IRAS 1.2 Jy Redshift Survey. *Daniel M. Koranyi & Michael A. Strauss*. 477, 36 (1997)
- The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner*. 477, L1 (1997)
- The Universe and Globular Clusters: An Age Conflict? *F. D'Antona, V. Caloi, & I. Mazzitelli*. 477, 519 (1997)
- The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. *John A. Graham, Randy L. Phelps, Wendy L. Freedman, Abhijit Saha, Laura Ferrarese, Peter B. Stetson, Barry F. Madore, N. A. Silbermann, Shoko Sakai, Robert C. Kennicutt, Paul Harding, Fabio Bresolin, Anne Turner, Jeremy R. Mould, Daya M. Rawson, Holland C. Ford, John G. Hoessel, Mingsheng Han, John P. Huchra, Lucas M. Macri, Shaun M. Hughes, Garth D. Illingworth, & Daniel D. Kelson*. 477, 535 (1997)
- COSMOLOGY: EARLY UNIVERSE**
- Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews*. 479, 31 (1997)
- Stimulated Radiative Association of Li and H in the Early Universe. *P. C. Stancil & A. Dalgarno*. 479, 543 (1997)
- Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers*. 479, 547 (1997)
- Radiative Association Rates and Structure of Resonances for Li and Li⁺ Colliding with H and H⁺. *F. A. Gianturco & P. Gori Giorgi*. 479, 560 (1997)
- COSMOLOGY: GRAVITATIONAL LENSING**
- Large-Scale QSO-Galaxy Correlations for Radio-loud and Optically Selected QSO Samples. *N. Benítez & E. Martínez-González*. 477, 27 (1997)
- Satellite Parallaxes of Lensing Events toward the Galactic Bulge. *B. Scott Gaudi & Andrew Gould*. 477, 152 (1997)
- Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn*. 477, L5 (1997)
- The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Juntkarinen, & R. W. Lyons*. 477, 568 (1997)
- Stokes's Theorem Applied to Microlensing of Finite Sources. *Andrew Gould & Cédric Gaucherel*. 477, 580 (1997)
- Resolving Redshifted Molecular Absorption toward the Gravitational Lens PKS 1830–211. *Brenda Frye, William J. Welch, & Tom Broadhurst*. 478, L25 (1997)
- Gravitational Lensing of the X-Ray Background by Clusters of Galaxies. *Alexandre Refregier & Abraham Loeb*. 478, 476 (1997)
- A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher*. 479, 70 (1997)
- The 6 Centimeter Light Curves of B0957+561, 1979–1994: New Features and Implications for the Time Delay. *D. B. Haarsma, J. N. Hewitt, J. Lehar, & B. F. Burke*. 479, 102 (1997)
- The MACHO Project: 45 Candidate Microlensing Events from the First-Year Galactic Bulge Data. *C. Alcock, R. A. Allsman, D. Alves, T. S. Axelrod, D. P. Bennett, K. H. Cook, K. C. Freeman, K. Griest, J. Guern, M. J. Lehner, S. L. Marshall, H.-S. Park, S. Perlmutter, B. A. Peterson, M. R. Pratt, P. J. Quinn, A. W. Rodgers, C. W. Stubbs, & W. Sutherland*. 479, 119 (1997)
- Kicked Neutron Stars and Microlensing. *Silvia Mollerach & Esteban Roulet*. 479, 147 (1997)
- Optical and Infrared Investigation toward the $z = 3.8$ Quasar Pair PC 1643+4631A, B. *Richard Saunders, Joanne C. Baker, Malcolm N. Bremer, Andrew J. Bunker, Garret Cotter, Steve Eales, Keith Grainge, Toby Haynes, Michael E. Jones, Mark Lacy, Guy Pooley, & Steve Rawlings*. 479, L5 (1997)
- SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? *Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen*. 479, 678 (1997)
- Time Delay of QSO 0957+561 and Cosmological Implications. *Alejandro Oscos, Evencio Mediavilla, Luis Julián Goicoechea, Miquel Serra-Ricart, & Jesús Buitrago*. 479, L89 (1997)
- COSMOLOGY: LARGE-SCALE STRUCTURE OF UNIVERSE**
- Self-Similarity and the Pair Velocity Dispersion. *Somnath Bharadwaj*. 477, 1 (1997)
- Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz*. 477, 21 (1997)
- The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner*. 477, L1 (1997)
- Large-Scale Filaments: Newtonian versus Modified Dynamics. *Mordehai Milgrom*. 478, 7 (1997)
- High-Redshift Supernovae and the Metal-poor Halo Stars: Signatures of the First Generation of Galaxies. *Jordi Miralda-Escudé & Martin J. Rees*. 478, L57 (1997)
- Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews*. 479, 31 (1997)
- Cosmology in Conformally Flat Spacetime. *Geoffrey Endean*. 479, 40 (1997)
- Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac*. 479, 46 (1997)
- The Bull's-Eye Effect: Are Galaxy Walls Observationally Enhanced? *Elizabeth A. Praton, Adrian L. Melott, & Margaret Q. McKee*. 479, L15 (1997)
- Redshift Evolution of Galaxy Cluster Densities. *R. G. Carlberg, S. L. Morris, H. K. C. Yee, & E. Ellingson*. 479, L19 (1997)

- Evolution of Structure in the Intergalactic Medium and the Nature of the Ly α Forest. *HongGuang Bi & Arthur F. Davidsen*. 479, 523 (1997)
- Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack*. 479, 580 (1997)
- Large-Scale Power Spectrum from Peculiar Velocities. *Tsafrir Kolatt & Avishai Dekel*. 479, 592 (1997)
- The Small-Scale Velocity Dispersion of Galaxies: A Comparison of Cosmological Simulations. *Rachel S. Somerville, Joel Primack, & Richard Nolthenius*. 479, 606 (1997)
- A Reanalysis of Small-Scale Velocity Dispersion in the CfA1 Survey. *Rachel S. Somerville, Marc Davis, & Joel R. Primack*. 479, 616 (1997)
- Testing Cosmological Models with a Ly α Forest Statistic: The High End of the Optical Depth Distribution. *Renyue Cen*. 479, L85 (1997)
- COSMOLOGY: MISCELLANEOUS**
- The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss*. 479, 665 (1997)
- Demonstrating Discreteness and Collision Error in Cosmological N -Body Simulations of Dark Matter Gravitational Clustering. *Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto*. 479, L79 (1997)
- COSMOLOGY: OBSERVATIONS**
- The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner*. 477, L1 (1997)
- A Cosmic Microwave Background Radiation Measurement Reproduced: A Statistical Comparison of MSAM1-94 to MSAM1-92. *C. A. Inman, E. S. Cheng, D. A. Cottingham, D. J. Fixsen, M. S. Kowitz, S. S. Meyer, L. A. Page, J. L. Puchalla, J. E. Ruhl, & R. F. Silverberg*. 478, L1 (1997)
- On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? *David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth*. 478, L49 (1997)
- Intracuster Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio*. 479, 1 (1997)
- The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mauskopf, D. E. Osgood, & A. E. Lange*. 479, 17 (1997)
- The 6 Centimeter Light Curves of B0957+561, 1979–1994: New Features and Implications for the Time Delay. *D. B. Haarsma, J. N. Hewitt, J. Lehar, & B. F. Burke*. 479, 102 (1997)
- Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford*. 479, L9 (1997)
- Large-Scale Power Spectrum from Peculiar Velocities. *Tsafrir Kolatt & Avishai Dekel*. 479, 592 (1997)
- A Reanalysis of Small-Scale Velocity Dispersion in the CfA1 Survey. *Rachel S. Somerville, Marc Davis, & Joel R. Primack*. 479, 616 (1997)
- The Environmental Dependence of Brightest Cluster Galaxies: Implications for Large-Scale Flows. *Michael J. Hudson & Harald Ebeling*. 479, 621 (1997)
- The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer*. 479, L101 (1997)
- COSMOLOGY: THEORY**
- Self-Similarity and the Pair Velocity Dispersion. *Somnath Bharadwaj*. 477, 1 (1997)
- Anisotropic Observations in Universes with Nonlinear Inhomogeneity. *Neil P. Humphreys, Roy Maartens, & David R. Matravers*. 477, 47 (1997)
- Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn*. 477, L5 (1997)
- On the Origin of Cusps in Dark Matter Halos. *Toshiyuki Fukushige & Junichiro Makino*. 477, L9 (1997)
- Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu*. 477, 560 (1997)
- Peaks in the Cosmic Microwave Background: Flat versus Open Models. *R. B. Barreiro, J. L. Sanz, E. Martínez-González, L. Cayón, & Joseph Silk*. 478, 1 (1997)
- Large-Scale Filaments: Newtonian versus Modified Dynamics. *Mordehai Milgrom*. 478, 7 (1997)
- The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. *Julio F. Navarro & Matthias Steinmetz*. 478, 13 (1997)
- Structures in the Mirror Universe. *R. N. Mohapatra & Vigdor L. Teplitz*. 478, 29 (1997)
- Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews*. 479, 31 (1997)
- Cosmology in Conformally Flat Spacetime. *Geoffrey Endean*. 479, 40 (1997)
- Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac*. 479, 46 (1997)
- Newtonian Evolution of the Weyl Tensor. *G. F. R. Ellis & P. K. S. Dunsby*. 479, 97 (1997)
- The Damping Tail of Cosmic Microwave Background Anisotropies. *Wayne Hu & Martin White*. 479, 568 (1997)
- Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack*. 479, 580 (1997)
- Large-Scale Power Spectrum from Peculiar Velocities. *Tsafrir Kolatt & Avishai Dekel*. 479, 592 (1997)
- The Small-Scale Velocity Dispersion of Galaxies: A Comparison of Cosmological Simulations. *Rachel S. Somerville, Joel Primack, & Richard Nolthenius*. 479, 606 (1997)
- The Ellipticity and Orientation of Clusters of Galaxies in N -Body Experiments. *Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker*. 479, 632 (1997)
- Are Galactic Rotation Curves Really Flat? *Philip D. Mannheim*. 479, 659 (1997)
- Testing Cosmological Models with a Ly α Forest Statistic: The High End of the Optical Depth Distribution. *Renyue Cen*. 479, L85 (1997)
- DENSE MATTER**
- Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato*. 477, 294 (1997)
- Cooling Neutron Stars with Accreted Envelopes. *Gilles Chabrier, Alexander Y. Potekhin, & Dmitry G. Yakovlev*. 477, L99 (1997)
- Neutrino Scattering in a Newly Born Neutron Star. *Sanjay Reddy & Madappa Prakash*. 478, 689 (1997)
- Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein*. 478, L91 (1997)
- Fast Cooling of Neutron Stars: Superfluidity versus Heating and Accreted Envelope. *Dany Page*. 479, L43 (1997)
- On the Rotation and Magnetic Field Evolution of Superconducting Strange Stars. *H. F. Chau*. 479, 886 (1997)
- DIFFUSION**
- Turbulent Diffusion of Large-Scale Magnetic Fields in the Presence of Ambipolar Drift. *Eun-Jin Kim*. 477, 183 (1997)
- Current Sheet Formation in the Interstellar Medium. *Ellen G. Zweibel & Axel Brandenburg*. 478, 563 (1997)
- ELEMENTARY PARTICLES**
- Comments on Misunderstandings of Relativity and the Theoretical Interpretation of the Kreuzer Experiment. *C. Y. Lo*. 477, 700 (1997)
- Structures in the Mirror Universe. *R. N. Mohapatra & Vigdor L. Teplitz*. 478, 29 (1997)
- Thermal Conduction by Electrons in Hot Dense Plasmas. *A. H. Khalfaoui & D. Bannaceur*. 478, 326 (1997)
- Neutrino Scattering in a Newly Born Neutron Star. *Sanjay Reddy & Madappa Prakash*. 478, 689 (1997)
- Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers*. 479, 547 (1997)
- Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event. *H. Debrunner, J. A. Lockwood, C. Barat, R. Büttiker, J. P. Dezalay, E. Flückiger, A. Kuznetsov, J. M. Ryan, R. Sunyaev, O. V. Terekhov, G. Trotter, & N. Vilmer*. 479, 997 (1997)

ERRATA, ADDENDA

- The Growth Rate of Tidally Excited Waves in Accretion Disks: Erratum. *Ethan T. Vishniac & Changsong Zhang*. 477, 516 (1997) (Orig. paper in 461, 307, 92-B13 (1996))
- High-Resolution ^{13}CO and C^{18}O $J = 1-0$ Observations of NGC 1068: Molecular Gas Properties of a High $\text{C}^{18}\text{O}/^{13}\text{CO}$ Intensity Ratio: Erratum. *Padeli P. Papadopoulos, E. R. Seaquist, & N. Z. Scoville*. 477, 518 (1997) (Orig. paper in 465, 173, 165-D12 (1996))
- A Long-Term Study of Broad Emission Line Profile Variability in NGC 5548: Erratum. *Ignaz Wanders & Bradley M. Peterson*. 477, 990 (1997) (Orig. paper in 466, 174, 184-F8 (1996))
- The Extragalactic Distance Scale Key Project. III. The Discovery of Cepheids and a New Distance to M101 Using the Hubble Space Telescope: Erratum. *Daniel D. Kelson, Garth D. Illingworth, Wendy F. Freedman, John A. Graham, Robert Hill, Barry F. Madore, Abhijit Saha, Peter B. Stetson, Robert C. Kennicutt, Jr., Jeremy R. Mould, Shaun M. Hughes, Laura Ferrarese, Randy Phelps, Anne Turner, Kem H. Cook, Holland Ford, John G. Hoessel, & John Huchra*. 478, 430 (1997) (Orig. paper in 477, 535 (1997))
- Evolution of the Solar Nebula. III. Protoplanetary Disks Undergoing Mass Accretion: Erratum. *Alan P. Boss*. 478, 828 (1997) (Orig. paper in 469, 906, 253-A4 (1996))
- New Stellar Reaction Rate for $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$. *L. Buchmann*. 479, L153 (1997) (Orig. paper in 468, L127, 236-B13 (1996))
- Model Color-Magnitude Diagrams for Hubble Space Telescope Observations of Local Group Dwarf Galaxies: Erratum. *A. Aparicio, C. Gallart, C. Choisi, & G. Bertelli*. 479, L153 (1997) (Orig. paper in 469, L97, 254-G8 (1996))
- On Protostellar Disks in Herbig Ae/Be Stars: Erratum. *Anatoly Miroshnichenko, Željko Ivezić, & Moshe Elitzur*. 479, L153 (1997) (Orig. paper in 475, L41 (1997))
- Discovery of a Bow Shock around Vela X-1: Erratum. *L. Kaper, J. Th. van Loon, T. Augusteijn, P. Goudfroot, F. Patat, L. B. F. M. Waters, & A. A. Zijlstra*. 479, L153 (1997) (Orig. paper in 475, L37 (1997))

GALAXIES: ABUNDANCES

- The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini*. 477, 128 (1997)
- Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa*. 477, 679 (1997)
- High-Resolution Spectra of Intrinsic Absorption Lines in the Quasistellar Object UM 675. *Fred Hamann, Thomas A. Barlow, Vesa Junkkarinen, & E. M. Burbidge*. 478, 80 (1997)
- The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. *Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto*. 478, L21 (1997)
- Dust in High-Redshift Galaxies. *Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead*. 478, 536 (1997)

GALAXIES: ACTIVE

- The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell*. 477, 93 (1997)
- ASCA Observations of Seyfert 1 Galaxies. II. Relativistic Iron $K\alpha$ Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob*. 477, 602 (1997)
- Merging of Galaxies with Central Black Holes. II. Evolution of the Black Hole Binary and the Structure of the Core. *Junichiro Makino*. 478, 58 (1997)
- Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels*. 478, 94 (1997)
- ASCA and ROSAT X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali*. 478, 492 (1997)
- Spallation of Iron in Black Hole Accretion Flows. *Jeffrey G. Skibo*. 478, 522 (1997)
- A Precessing Disk in OJ 287? *J. I. Katz*. 478, 527 (1997)
- On the Observational Evidence for Accretion Disks in Active Galactic Nuclei. *Mario Livio & Chun Xu*. 478, L63 (1997)

- X-Ray Transmission in Cold Matter: Nonrelativistic Corrections for Compton Scattering. *Tahir Yaqoob*. 479, 184 (1997)
- Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bortoff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford*. 479, 200 (1997)
- The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet. *H. L. Marshall, T. E. Carone, B. M. Peterson, J. Clavel, D. M. Crenshaw, K. T. Korista, G. A. Kriss, J. H. Krolik, M. A. Malkan, S. L. Morris, P. T. O'Brien, & G. A. Reichert*. 479, 222 (1997)
- Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige*. 479, L97 (1997)
- Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn*. 479, L105 (1997)
- Discovery of a Nonblazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04. *M. Tavani, R. Mukherjee, J. R. Mattox, J. Halpern, D. J. Thompson, G. Kanbach, W. Hermsen, S. N. Zhang, & R. S. Foster*. 479, L109 (1997)

GALAXIES: BL LACERTAE OBJECTS: GENERAL

- The Relation between Gamma-Ray and Near-Infrared Radiation in Gamma-Ray-loud Blazars. *G. Z. Xie, Y. H. Zhang, & J. H. Fan*. 477, 114 (1997)

- Hadronic Production of TeV Gamma-Ray Flares from Blazars. *Amnon Dar & Ari Laor*. 478, L5 (1997)

GALAXIES: BL LACERTAE OBJECTS: INDIVIDUAL

Name: Markarian 421

- Hadronic Production of TeV Gamma-Ray Flares from Blazars. *Amnon Dar & Ari Laor*. 478, L5 (1997)

Name: Markarian 501

- Hadronic Production of TeV Gamma-Ray Flares from Blazars. *Amnon Dar & Ari Laor*. 478, L5 (1997)

Alphanumeric: OJ 287

- A Precessing Disk in OJ 287? *J. I. Katz*. 478, 527 (1997)

GALAXIES: CLUSTERS: GENERAL

- Large-Scale QSO-Galaxy Correlations for Radio-loud and Optically Selected QSO Samples. *N. Benítez & E. Martínez-González*. 477, 27 (1997)
- The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner*. 477, 79 (1997)
- Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn*. 477, L5 (1997)
- Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu*. 477, 560 (1997)
- More Satellites of Spiral Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White*. 478, 39 (1997)
- Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant*. 478, L13 (1997)
- The Average Mass and Light Profiles of Galaxy Clusters. *R. G. Carlberg, H. K. C. Yee, & E. Ellingson*. 478, 462 (1997)
- Radiation-induced Void in the Spectrum of Tol 1038-2712. *R. Srianand*. 478, 511 (1997)
- Intracluster Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio*. 479, 1 (1997)
- The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mouskoff, D. E. Osgood, & A. E. Lange*. 479, 17 (1997)
- A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher*. 479, 70 (1997)
- The Real Space and Redshift Space Correlation Functions at Redshift $z = 1/3$. *C. W. Shepherd, R. G. Carlberg, H. K. C. Yee, & E. Ellingson*. 479, 82 (1997)

- The Luminosity Function of Galaxies in Clusters. *Carlos A. Valotto, Mariano A. Nicotra, Hernan Muriel, & Diego G. Lambas.* 479, 90 (1997)
- Detection of a Cosmic Microwave Background Decrement toward the $z = 3.8$ Quasar Pair PC 1643+4631A. *B. Michael E. Jones, Richard Saunders, Joanne C. Baker, Garret Cotter, Alastair Edge, Keith Grainge, Toby Haynes, Anthony Lasenby, Guy Pooley, & Huub Röttgering.* 479, L1 (1997)
- Redshift Evolution of Galaxy Cluster Densities. *R. G. Carlberg, S. L. Morris, H. K. C. Yee, & E. Ellingson.* 479, L19 (1997)
- Statistical Tests for CHDM and Λ CDM Cosmologies. *Sebastiano Ghigna, Stefano Borgani, Marco Tucci, Silvio A. Bonometto, Anatoly Klypin, & Joel R. Primack.* 479, 580 (1997)
- The Small-Scale Velocity Dispersion of Galaxies: A Comparison of Cosmological Simulations. *Rachel S. Somerville, Joel Primack, & Richard Nolthenius.* 479, 606 (1997)
- A Reanalysis of Small-Scale Velocity Dispersion in the CfA1 Survey. *Rachel S. Somerville, Marc Davis, & Joel R. Primack.* 479, 616 (1997)
- The Environmental Dependence of Brightest Cluster Galaxies: Implications for Large-Scale Flows. *Michael J. Hudson & Harald Ebeling.* 479, 621 (1997)
- The Ellipticity and Orientation of Clusters of Galaxies in N -Body Experiments. *Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker.* 479, 632 (1997)
- Hubble Space Telescope Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider.* 479, 642 (1997)
- The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer.* 479, L101 (1997)
- Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer.* 479, L113 (1997)
- On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol.* 479, L117 (1997)
- GALAXIES: CLUSTERS: INDIVIDUAL**
- Name: Abell 1689**
- Gravitational Lensing of the X-Ray Background by Clusters of Galaxies. *Alexandre Refregier & Abraham Loeb.* 478, 476 (1997)
- Name: Leo**
- The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. *John A. Graham, Randy L. Phelps, Wendy L. Freedman, Abhijit Saha, Laura Ferrarese, Peter B. Stetson, Barry F. Madore, N. A. Silbermann, Shoko Sakai, Robert C. Kennicutt, Paul Harding, Fabio Bresolin, Anne Turner, Jeremy R. Mould, Daya M. Rawson, Holland C. Ford, John G. Hoessel, Mingsheng Han, John P. Huchra, Lucas M. Macri, Shaun M. Hughes, Garth D. Illingworth, & Daniel D. Kelson.* 477, 535 (1997)
- Name: Perseus**
- A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkanen, & Mike Newberry.* 477, 144 (1997)
- Name: Perseus-Pisces**
- Large-Scale Filaments: Newtonian versus Modified Dynamics. *Mordehai Milgrom.* 478, 7 (1997)
- NGC Number: NGC 1961**
- X-Ray Properties of the NGC 1961 Group of Galaxies. *W. D. Pence & A. H. Rots.* 478, 107 (1997)
- Name: Abell 1795**
- Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher.* 478, 516 (1997)
- Alphanumeric: Cl 1358+62**
- Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)
- Alphanumeric: CL 0024+1654**
- On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? *David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth.* 478, L49 (1997)
- Alphanumeric: HCG 31**
- Recent Star Formation in Groups of Galaxies: HCG 31. *Jorge Iglesias-Páramo & José M. Vílchez.* 479, 190 (1997)
- Alphanumeric: MS 2053-04**
- Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)
- GALAXIES: COMPACT**
- Hubble Space Telescope Observations of the Blue Compact Dwarf SBS 0335-052: A Probable Young Galaxy. *Trinh X. Thuan, Yuri I. Izotov, & Valentin A. Lipovetsky.* 477, 661 (1997)
- GALAXIES: COOLING FLOWS**
- A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkanen, & Mike Newberry.* 477, 144 (1997)
- Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan.* 477, 585 (1997)
- Nuclear Starburst Hydrodynamics. *Guillermo Tenorio-Tagle & Casiana Muñoz-Tuñón.* 478, 134 (1997)
- GALAXIES: DISTANCES AND REDSHIFTS**
- Testing the Hubble Law with the IRAS 1.2 Jy Redshift Survey. *Daniel M. Koranyi & Michael A. Strauss.* 477, 36 (1997)
- The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner.* 477, L1 (1997)
- More Satellites of Spiral Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White.* 478, 39 (1997)
- Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the Hubble Space Telescope. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum.* 478, 49 (1997)
- The Real Space and Redshift Space Correlation Functions at Redshift $z = 1/3$. *C. W. Shepherd, R. G. Carlberg, H. K. C. Yee, & E. Ellingson.* 479, 82 (1997)
- Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)
- The Bull's-Eye Effect: Are Galaxy Walls Observationally Enhanced? *Elizabeth A. Praton, Adrian L. Melott, & Margaret Q. McKee.* 479, L15 (1997)
- Large-Scale Power Spectrum from Peculiar Velocities. *Tsafir Kolatt & Avishai Dekel.* 479, 592 (1997)
- The Small-Scale Velocity Dispersion of Galaxies: A Comparison of Cosmological Simulations. *Rachel S. Somerville, Joel Primack, & Richard Nolthenius.* 479, 606 (1997)
- A Reanalysis of Small-Scale Velocity Dispersion in the CfA1 Survey. *Rachel S. Somerville, Marc Davis, & Joel R. Primack.* 479, 616 (1997)
- The Environmental Dependence of Brightest Cluster Galaxies: Implications for Large-Scale Flows. *Michael J. Hudson & Harald Ebeling.* 479, 621 (1997)
- GALAXIES: ELLIPTICAL AND LENTICULAR, CD**
- The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini.* 477, 128 (1997)
- A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkanen, & Mike Newberry.* 477, 144 (1997)
- Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan.* 477, 585 (1997)
- Formation of Boxy and Disky Elliptical Galaxies in Early Dissipative Mergers. *Kenji Bekki & Yasuhiro Shioya.* 478, L17 (1997)

- Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher.* 478, 516 (1997)

GALAXIES: EVOLUTION

- Evolution of Cluster Ellipticals at 0.2 z \pm 1.2 from *Hubble Space Telescope* Imaging. *David Schade, L. Felipe Barrientos, & Omar López-Cruz.* 477, L17 (1997)

- H α Imaging of the Candidate Protogalaxy MS 1512-cB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellingson.* 477, L29 (1997)

- Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok.* 477, L79 (1997)

- The Stellar Content of Giant H II Regions in NGC 7714. *María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich.* 478, 112 (1997)

- Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from *Hubble Space Telescope* Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)

- The Fate of Cannibalized Fundamental-Plane Elliptical Galaxies. *Martin D. Weinberg.* 478, 435 (1997)

- On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? *David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth.* 478, L49 (1997)

- A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher.* 479, 70 (1997)

- The Real Space and Redshift Space Correlation Functions at Redshift $z = 1/3$. *C. W. Shepherd, R. G. Carlberg, H. K. C. Yee, & E. Ellingson.* 479, 82 (1997)

- A Spectral Analysis of Two Compact Steep-Spectrum Sources. *D. M. Katz-Stone & L. Rudnick.* 479, 258 (1997)

- On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol.* 479, L117 (1997)

- Optical Rotation Curves of Distant Field Galaxies: Sub- L^* Systems. *Nicole P. Vogt, Andrew C. Phillips, S. M. Faber, Jesús Gallego, Caryl Gronwall, R. Guzmán, Garth D. Illingworth, David C. Koo, & J. D. Lowenthal.* 479, L121 (1997)

GALAXIES: FORMATION

- Photoionization, Numerical Resolution, and Galaxy Formation. *David H. Weinberg, Lars Hernquist, & Neal Katz.* 477, 8 (1997)

- On the Origin of Cusps in Dark Matter Halos. *Toshiyuki Fukushige & Junichiro Makino.* 477, L9 (1997)

- H α Imaging of the Candidate Protogalaxy MS 1512-cB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellingson.* 477, L29 (1997)

- The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. *Julio F. Navarro & Matthias Steinmetz.* 478, 13 (1997)

- Formation of Boxy and Disky Elliptical Galaxies in Early Dissipative Mergers. *Kenji Bekki & Yasuhiro Shioya.* 478, L17 (1997)

- The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. *Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto.* 478, L21 (1997)

- On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? *David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth.* 478, L49 (1997)

- High-Redshift Supernovae and the Metal-poor Halo Stars: Signatures of the First Generation of Galaxies. *Jordi Miralda-Escudé & Martin J. Rees.* 478, L57 (1997)

- Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac.* 479, 46 (1997)

GALAXIES: FUNDAMENTAL PARAMETERS

- Evolution of Cluster Ellipticals at 0.2 z \pm 1.2 from *Hubble Space Telescope* Imaging. *David Schade, L. Felipe Barrientos, & Omar López-Cruz.* 477, L17 (1997)

- Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from *Hubble Space Telescope* Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)

- On the Nature of the Strong Emission-Line Galaxies in Cluster Cl 0024+1654: Are Some the Progenitors of Low-Mass Spheroidals? *David C. Koo, Rafael Guzmán, Jesús Gallego, & Gregory D. Wirth.* 478, L49 (1997)

- A Comparison of Direct and Indirect Mass Estimates for Distant Clusters of Galaxies. *Ian Smail, Richard S. Ellis, Alan Dressler, Warrick J. Couch, Augustus Oemler, Jr., Ray M. Sharples, & Harvey Butcher.* 479, 70 (1997)

- The Environmental Dependence of Brightest Cluster Galaxies: Implications for Large-Scale Flows. *Michael J. Hudson & Harald Ebeling.* 479, 621 (1997)

GALAXIES: HALOS

- The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. *Julio F. Navarro & Matthias Steinmetz.* 478, 13 (1997)

- The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks.* 478, 530 (1997)

- Anisotropies in the Distribution of Satellite Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos S. Frenk, & Simon D. M. White.* 478, L53 (1997)

GALAXIES: INDIVIDUAL

Messier Number: M32

- On Calibrating Brightest Asymptotic Giant Branch Stars as Age Indicators: The Bulge Globular Cluster NGC 6553 and the Age of M32. *Maria Donata Guarnieri, Alvio Renzini, & Sergio Ortolani.* 477, L21 (1997)

Messier Number: M33

- A Warped Disk Model for M33 and the 21 Centimeter Line Width in Spiral Galaxies. *Edvige Corbelli & Stephen E. Schneider.* 479, 244 (1997)

Messier Number: M51

- Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). *Jesse K. Hill, William H. Waller, Robert H. Cornett, Ralph C. Bohlin, K.-P. Cheng, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, P. M. N. Hintzen, Eric P. Smith, & Theodore P. Stecher.* 477, 673 (1997)

- Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)

Messier Number: M82

- Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions. *J. Stutzki, U. U. Graf, S. Haas, C. E. Honingh, D. Hougenroth, K. Jacobs, R. Schieder, R. Simon, J. Staguhn, G. Winnewisser, R. N. Martin, W. L. Peters, & J. P. McMullin.* 477, L33 (1997)

- The Complex Broadband X-Ray Spectrum of the Starburst Galaxy M82. *Edward C. Moran & Matthew D. Lehnert.* 478, 172 (1997)

Messier Number: M96

- Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)

Messier Number: M101

- Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)

NGC Number: NGC 1275

- A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkkanen, & Mike Newberry.* 477, 144 (1997)

NGC Number: NGC 1569

- The Structure of the Super-Star Clusters in NGC 1569 from *Hubble Space Telescope* WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi.* 479, L27 (1997)

NGC Number: NGC 1961

X-Ray Properties of the NGC 1961 Group of Galaxies. *W. D. Pence & A. H. Rots.* 478, 107 (1997)

NGC Number: NGC 3351

The *Hubble Space Telescope* Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. *John A. Graham, Randy L. Phelps, Wendy L. Freedman, Abhijit Saha, Laura Ferrarese, Peter B. Stetson, Barry F. Madore, N. A. Silberman, Shoko Sakai, Robert C. Kennicutt, Paul Harding, Fabio Bresolin, Anne Turner, Jeremy R. Mould, Daya M. Rawson, Holland C. Ford, John G. Hoessel, Mingsheng Han, John P. Huchra, Lucas M. Macri, Shaun M. Hughes, Garth D. Illingworth, & Daniel D. Kelson.* 477, 535 (1997)

NGC Number: NGC 3516

The X-Ray Warm Absorber in NGC 3516. *Smita Mathur, Belinda J. Wilkes, & Thomas Aldcroft.* 478, 182 (1997)

NGC Number: NGC 4038/9

ROSAT HRI Observations of NGC 4038/4039, "The Antennae" Galaxies. *G. Fabbiano, François Schweizer, & G. Mackie.* 478, 542 (1997)

NGC Number: NGC 4138

NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakar, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils.* 479, 702 (1997)

NGC Number: NGC 4258

Ejection of Matter and Energy from NGC 4258. *E. M. Burbidge & G. Burbidge.* 477, L13 (1997)

NGC Number: NGC 4321

Spiral Density Wave Theory, Corotation Resonance, and the Velocity Field of NGC 4321. *Blaise Canzian & Ronald J. Allen.* 479, 723 (1997)

NGC Number: NGC 4736

Detection of Compact Nuclear X-Ray Emission in NGC 4736. *W. Cui, D. Feldkhun, & R. Braun.* 477, 693 (1997)

NGC Number: NGC 4945

The Conelike H α Nebula in NGC 4945: A Galactic Superwind Bow Shock? *Yang Chen & Jie-Hao Huang.* 479, L23 (1997)

NGC Number: NGC 5253

Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa.* 477, 679 (1997)

NGC Number: NGC 5548

Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bortoloff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford.* 479, 200 (1997)

The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet. *H. L. Marshall, T. E. Carone, B. M. Peterson, J. Clavel, D. M. Crenshaw, K. T. Korista, G. A. Kriss, J. H. Krolik, M. A. Malkan, S. L. Morris, P. T. O'Brien, & G. A. Reichert.* 479, 222 (1997)

NGC Number: NGC 7714

The Stellar Content of Giant H II Regions in NGC 7714. *Marta Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich.* 478, 112 (1997)

Name: Circinus

Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn.* 479, L105 (1997)

Name: Leo I

The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks.* 478, 530 (1997)

Alphanumeric: 3C 67

A Spectral Analysis of Two Compact Steep-Spectrum Sources. *D. M. Katz-Stone & L. Rudnick.* 479, 258 (1997)

Alphanumeric: 3C 190

A Spectral Analysis of Two Compact Steep-Spectrum Sources. *D. M. Katz-Stone & L. Rudnick.* 479, 258 (1997)

Alphanumeric: 3C 390.3

On the Observational Evidence for Accretion Disks in Active Galactic Nuclei. *Mario Livio & Chun Xu.* 478, L63 (1997)

Alphanumeric: M105

Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the *Hubble Space Telescope*. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum.* 478, 49 (1997)

Alphanumeric: MS 1512-cB58

H α Imaging of the Candidate Protogalaxy MS 1512-cB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellingson.* 477, L29 (1997)

Alphanumeric: OJ 287

A Precessing Disk in OJ 287? *J. I. Katz.* 478, 527 (1997)

Alphanumeric: PKS 1830-211

Resolving Redshifted Molecular Absorption toward the Gravitational Lens PKS 1830-211. *Brenda Frye, William J. Welch, & Tom Broadhurst.* 478, L25 (1997)

Alphanumeric: SBS 0335-052

Hubble Space Telescope Observations of the Blue Compact Dwarf SBS 0335-052: A Probable Young Galaxy. *Trinh X. Thuan, Yuri I. Izotov, & Valentin A. Lipovetsky.* 477, 661 (1997)

GALAXIES: INTERACTIONS

Lopsided Spiral Galaxies and a Limit on the Galaxy Accretion Rate. *Dennis Zaritsky & Hans-Walter Rix.* 477, 118 (1997)

Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok.* 477, L79 (1997)

Merging of Galaxies with Central Black Holes. II. Evolution of the Black Hole Binary and the Structure of the Core. *Junichiro Makino.* 478, 58 (1997)

Formation of Boxy and Disky Elliptical Galaxies in Early Dissipative Mergers. *Kenji Bekki & Yasuhiro Shioya.* 478, L17 (1997)

The Fate of Cannibalized Fundamental-Plane Elliptical Galaxies. *Martin D. Weinberg.* 478, 435 (1997)

ROSAT HRI Observations of NGC 4038/4039, "The Antennae" Galaxies. *G. Fabbiano, François Schweizer, & G. Mackie.* 478, 542 (1997)

Recent Star Formation in Groups of Galaxies: HCG 31. *Jorge Iglesias-Páramo & José M. Vilchez.* 479, 190 (1997)

Hubble Space Telescope Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider.* 479, 642 (1997)

NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakar, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils.* 479, 702 (1997)

GALAXIES: INTERGALACTIC MEDIUM

Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu.* 477, 560 (1997)

X-Ray Properties of the NGC 1961 Group of Galaxies. *W. D. Pence & A. H. Rots.* 478, 107 (1997)

Radiation-induced Void in the Spectrum of Tol 1038-2712. *R. Srikanand.* 478, 511 (1997)

Evolution of Structure in the Intergalactic Medium and the Nature of the Ly α Forest. *HongGuang Bi & Arthur F. Davidsen.* 479, 523 (1997)

Is X-Ray Absorption from Quasar Absorption-Line Systems Detectable? *K. S. O'Flaherty & P. Jakobsen.* 479, 673 (1997)

Testing Cosmological Models with a Ly α Forest Statistic: The High End of the Optical Depth Distribution. *Renyue Cen.* 479, L85 (1997)

GALAXIES: IRREGULAR

The Structure of the Super-Star Clusters in NGC 1569 from *Hubble Space Telescope* WFPC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi.* 479, L27 (1997)

GALAXIES: ISM

The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini.* 477, 128 (1997)

Scattering and Dichroic Extinction: Polarimetric Signatures of Galaxies. *Kenneth Wood.* 477, L25 (1997)

Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions. *J. Stutzki, U. U. Graf, S. Haas, C. E. Honingh, D. Hottgenroth, K. Jacobs, R. Schieder, R. Simon, J. Stagnu, G. Winnewisser, R. N. Martin, W. L. Peters, & J. P. McMullin.* 477, L33 (1997)

- The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons.* 477, 568 (1997)
- Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill.* 477, 631 (1997)
- Hubble Space Telescope Observations of the Blue Compact Dwarf SBS 0335-052: A Probable Young Galaxy. *Trinh X. Thuan, Yuri I. Izotov, & Valentin A. Lipovetsky.* 477, 661 (1997)
- Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). *Jesse K. Hill, William H. Waller, Robert H. Cornett, Ralph C. Bohlin, K.-P. Cheng, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, P. M. N. Hintzen, Eric P. Smith, & Theodore P. Stecher.* 477, 673 (1997)
- Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa.* 477, 679 (1997)
- The Stellar Content of Giant H II Regions in NGC 7714. *Marta Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich.* 473, 112 (1997)
- The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett.* 478, 144 (1997)
- Synthesis Imaging of Dense Gas in Nearby Galaxies. *Tamara T. Helfer & Leo Blitz.* 478, 162 (1997)
- Resolving Redshifted Molecular Absorption toward the Gravitational Lens PKS 1830-211. *Brenda Frye, William J. Welch, & Tom Broadhurst.* 478, L25 (1997)
- Dust in High-Redshift Galaxies. *Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead.* 478, 536 (1997)
- ROSAT HRI Observations of NGC 4038/4039, "The Antennae" Galaxies. *G. Fabbiano, François Schweizer, & G. Mackie.* 478, 542 (1997)
- Infrared Spectroscopy of Blue Dwarf Galaxies. *L. Vanzì & G. H. Rieke.* 479, 694 (1997)
- GALAXIES: JETS**
- Ejection of Matter and Energy from NGC 4258. *E. M. Burbidge & G. Burbidge.* 477, L13 (1997)
- Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel.* 477, L85 (1997)
- A Two-dimensional Simulation of a Relativistic Jet Bent by an Oblique Magnetic Field. *Shinji Koide.* 478, 66 (1997)
- Morphology and Dynamics of Relativistic Jets. *J. M^a. Martí, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina.* 479, 151 (1997)
- VLBI Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham.* 479, 684 (1997)
- Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn.* 479, L105 (1997)
- GALAXIES: KINEMATICS AND DYNAMICS**
- On the Origin of Cusps in Dark Matter Halos. *Toshiyuki Fukushige & Junichiro Makino.* 477, L9 (1997)
- Ejection of Matter and Energy from NGC 4258. *E. M. Burbidge & G. Burbidge.* 477, L13 (1997)
- Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok.* 477, L79 (1997)
- Nuclear Starburst Hydrodynamics. *Guillermo Tenorio-Tagle & Casiana Muñoz-Tuñón.* 478, 134 (1997)
- Evolution of Early-Type Galaxies in Distant Clusters: The Fundamental Plane from Hubble Space Telescope Imaging and Keck Spectroscopy. *Daniel D. Kelson, Pieter G. van Dokkum, Marijn Franx, Garth D. Illingworth, & Daniel Fabricant.* 478, L13 (1997)
- The Fate of Cannibalized Fundamental-Plane Elliptical Galaxies. *Martin D. Weinberg.* 478, 435 (1997)
- Global Spiral Modes in a Three-Phase Gravitating Disk. *N. Kikuchi, V. Korchagin, & S. M. Miyama.* 478, 446 (1997)
- The Average Mass and Light Profiles of Galaxy Clusters. *R. G. Carlberg, H. K. C. Yee, & E. Ellingson.* 478, 462 (1997)
- Anisotropies in the Distribution of Satellite Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos S. Frenk, & Simon D. M. White.* 478, L53 (1997)
- A Warped Disk Model for M33 and the 21 Centimeter Line Width in Spiral Galaxies. *Edvige Corbelli & Stephen E. Schneider.* 479, 244 (1997)
- The Conelike H α Nebula in NGC 4945: A Galactic Superwind Bow Shock? *Yang Chen & Jie-Hao Huang.* 479, L23 (1997)
- Are Galactic Rotation Curves Really Flat? *Philip D. Mannheim.* 479, 659 (1997)
- VLBI Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham.* 479, 684 (1997)
- NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakur, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils.* 479, 702 (1997)
- Spiral Density Wave Theory, Corotation Resonance, and the Velocity Field of NGC 4321. *Blaise Canzian & Ronald J. Allen.* 479, 723 (1997)
- Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn.* 479, L105 (1997)
- Optical Rotation Curves of Distant Field Galaxies: Sub-L* Systems. *Nicole P. Vogt, Andrew C. Phillips, S. M. Faber, Jesús Gallego, Caryl Gronwall, R. Guzmán, Garth D. Illingworth, David C. Koo, & J. D. Lowenthal.* 479, L121 (1997)
- GALAXIES: LOCAL GROUP**
- Color-Magnitude Diagrams of Merged Globular Clusters: Metallicity Effects. *M. Cadelan.* 478, L99 (1997)
- GALAXIES: LUMINOSITY FUNCTION, MASS FUNCTION**
- Photoionization, Numerical Resolution, and Galaxy Formation. *David H. Weinberg, Lars Hernquist, & Neal Katz.* 477, 8 (1997)
- The Luminosity Function of Galaxies in Clusters. *Carlos A. Valotto, Mariano A. Nicotra, Hernan Muriel, & Diego G. Lambas.* 479, 90 (1997)
- GALAXIES: MAGELLANIC CLOUDS**
- On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny.* 477, 792 (1997)
- The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deirdre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair.* 478, 124 (1997)
- Integrated Near-Infrared Colors of Star Clusters: Analysis of the Stochastic Effects on the Initial Mass Function. *João F. C. Santos, Jr., & Jay A. Frogel.* 479, 764 (1997)
- GALAXIES: MAGNETIC FIELDS**
- Scattering and Dichroic Extinction: Polarimetric Signatures of Galaxies. *Kenneth Wood.* 477, L25 (1997)
- A Two-dimensional Simulation of a Relativistic Jet Bent by an Oblique Magnetic Field. *Shinji Koide.* 478, 66 (1997)
- GALAXIES: NUCLEI**
- The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell.* 477, 93 (1997)
- ASCA Observations of Seyfert 1 Galaxies. II. Relativistic Iron K α Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob.* 477, 602 (1997)
- A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. *Henrique R. Schmitt, Anne L. Kinney, Thaisa Storchi-Bergmann, & Robert Antonucci.* 477, 623 (1997)
- Merging of Galaxies with Central Black Holes. II. Evolution of the Black Hole Binary and the Structure of the Core. *Junichiro Makino.* 478, 58 (1997)
- Nuclear Starburst Hydrodynamics. *Guillermo Tenorio-Tagle & Casiana Muñoz-Tuñón.* 478, 134 (1997)
- The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett.* 478, 144 (1997)
- Synthesis Imaging of Dense Gas in Nearby Galaxies. *Tamara T. Helfer & Leo Blitz.* 478, 162 (1997)
- Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick.* 479, 164 (1997)

- Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bottorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford.* 479, 200 (1997)
- Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige.* 479, L97 (1997)
- Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn.* 479, L105 (1997)
- GALAXIES: PHOTOMETRY**
- A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkkanen, & Mike Newberry.* 477, 144 (1997)
- Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill.* 477, 631 (1997)
- Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). *Jesse K. Hill, William H. Waller, Robert H. Cornett, Ralph C. Bohlin, K.-P. Cheng, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, P. M. N. Hintzen, Eric P. Smith, & Theodore P. Stecher.* 477, 673 (1997)
- Origin of the Spread in the B - K Color of Quasars. *R. Srianand & Ajit Kembhavi.* 478, 70 (1997)
- The Average Mass and Light Profiles of Galaxy Clusters. *R. G. Carlberg, H. K. C. Yee, & E. Ellingson.* 478, 462 (1997)
- Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher.* 478, 516 (1997)
- Recent Star Formation in Groups of Galaxies: HCG 31. *Jorge Iglesias-Páramo & José M. Vilchez.* 479, 190 (1997)
- GALAXIES: QUASARS: ABSORPTION LINES**
- Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz.* 477, 21 (1997)
- The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons.* 477, 568 (1997)
- Molecular Hydrogen Absorption in the z = 1.97 Damped Ly α Absorption System toward Quasi-stellar Object Q0013-004. *Jian Ge & Jill Bechtold.* 477, L73 (1997)
- High-Resolution Spectra of Intrinsic Absorption Lines in the Quasi-stellar Object UM 675. *Fred Hamann, Thomas A. Barlow, Vesa Junkkarinen, & E. M. Burbidge.* 478, 80 (1997)
- Time-Variable Intrinsic Absorption Lines in the Quasi-stellar Object Q2343+125. *Fred Hamann, Thomas A. Barlow, & Vesa Junkkarinen.* 478, 87 (1997)
- Radiation-induced Void in the Spectrum of Tol 1038-2712. *R. Srianand.* 478, 511 (1997)
- The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks.* 478, 530 (1997)
- Dust in High-Redshift Galaxies. *Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead.* 478, 536 (1997)
- High-Redshift Supernovae and the Metal-poor Halo Stars: Signatures of the First Generation of Galaxies. *Jordi Miralda-Escudé & Martin J. Rees.* 478, L57 (1997)
- Evolution of Structure in the Intergalactic Medium and the Nature of the Ly α Forest. *HongGuang Bi & Arthur F. Davidsen.* 479, 523 (1997)
- Testing Cosmological Models with a Ly α Forest Statistic: The High End of the Optical Depth Distribution. *Renyue Cen.* 479, L85 (1997)
- The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. *Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand.* 479, L93 (1997)
- GALAXIES: QUASARS: GENERAL**
- Large-Scale QSO-Galaxy Correlations for Radio-loud and Optically Selected QSO Samples. *N. Bentz & E. Martínez-González.* 477, 27 (1997)
- The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell.* 477, 93 (1997)
- The Relation between Gamma-Ray and Near-Infrared Radiation in Gamma-Ray-loud Blazars. *G. Z. Xie, Y. H. Zhang, & J. H. Fan.* 477, 114 (1997)
- Origin of the Spread in the B - K Color of Quasars. *R. Srianand & Ajit Kembhavi.* 478, 70 (1997)
- ASCA and ROSAT X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali.* 478, 492 (1997)
- Optical and Infrared Investigation toward the z = 3.8 Quasar Pair PC 1643+4631A. *B. Richard Saunders, Joanne C. Baker, Malcolm N. Bremer, Andrew J. Bunker, Garret Cotter, Steve Eales, Keith Grainge, Toby Haynes, Michael E. Jones, Mark Lacy, Guy Pooley, & Steve Rawlings.* 479, L5 (1997)
- Hubble Space Telescope Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider.* 479, 642 (1997)
- Is X-Ray Absorption from Quasar Absorption-Line Systems Detectable? *K. S. O'Flaherty & P. Jakobson.* 479, 673 (1997)
- The First Radio-loud Broad Absorption Line QSO and Evidence for a Hidden Population of Quasars. *Robert H. Becker, Michael D. Gregg, Isobel M. Hook, Richard G. McMahon, Richard L. White, & David J. Helfand.* 479, L93 (1997)
- Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige.* 479, L97 (1997)
- GALAXIES: QUASARS: INDIVIDUAL**
- Name: Tol 1038-2712**
- Radiation-induced Void in the Spectrum of Tol 1038-2712. *R. Srianand.* 478, 511 (1997)
- Alphanumeric: 0957+561**
- Time Delay of QSO 0957+561 and Cosmological Implications. *Alejandro Oscoz, Evencio Mediavilla, Luis Julián Goicoechea, Miquel Serra-Ricart, & Jesús Buitrago.* 479, L89 (1997)
- Alphanumeric: 1611+343**
- VLBI Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham.* 479, 684 (1997)
- Alphanumeric: B0957+561**
- The 6 Centimeter Light Curves of B0957+561, 1979-1994: New Features and Implications for the Time Delay. *D. B. Haarsma, J. N. Hewitt, J. Lehar, & B. F. Burke.* 479, 102 (1997)
- Alphanumeric: 3C 279**
- Multiwavelength Variability of the Synchrotron Self-Compton Model for Blazar Emission. *Mark W. Sincell.* 477, 574 (1997)
- Alphanumeric: H1413+117**
- Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at z = 2.6 Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford.* 479, L9 (1997)
- Alphanumeric: PC 1643+4631A,B**
- Detection of a Cosmic Microwave Background Decrement toward the z = 3.8 Quasar Pair PC 1643+4631A. *B. Michael E. Jones, Richard Saunders, Joanne C. Baker, Garret Cotter, Alastair Edge, Keith Grainge, Toby Haynes, Anthony Lasenby, Guy Pooley, & Huub Röttgering.* 479, L1 (1997)
- Optical and Infrared Investigation toward the z = 3.8 Quasar Pair PC 1643+4631A. *B. Richard Saunders, Joanne C. Baker, Malcolm N. Bremer, Andrew J. Bunker, Garret Cotter, Steve Eales, Keith Grainge, Toby Haynes, Michael E. Jones, Mark Lacy, Guy Pooley, & Steve Rawlings.* 479, L5 (1997)
- Alphanumeric: Q0013-004**
- Molecular Hydrogen Absorption in the z = 1.97 Damped Ly α Absorption System toward Quasi-stellar Object Q0013-004. *Jian Ge & Jill Bechtold.* 477, L73 (1997)
- Alphanumeric: Q2343+125**
- Time-Variable Intrinsic Absorption Lines in the Quasi-stellar Object Q2343+125. *Fred Hamann, Thomas A. Barlow, & Vesa Junkkarinen.* 478, 87 (1997)

Alphanumeric: QSO 0957+561

The Dust-to-Gas Ratio in the Damped Ly α Clouds toward the Gravitationally Lensed QSO 0957+561. *Lin Zuo, E. A. Beaver, E. Margaret Burbidge, Ross D. Cohen, Vesa T. Junkkarinen, & R. W. Lyons.* 477, 568 (1997)

Alphanumeric: SBS 0909+532

SBS 0909+532: A New Double Gravitational Lens or Binary Quasar? *Christopher S. Kochanek, Emilio E. Falco, Rudolf Schild, Adam Dobrzycki, Dieter Engels, & Hans-Jürgen Hagen.* 479, 678 (1997)

Alphanumeric: UM 675

High-Resolution Spectra of Intrinsic Absorption Lines in the Quasistellar Object UM 675. *Fred Hamann, Thomas A. Barlow, Vesa Junkkarinen, & E. M. Burbidge.* 478, 80 (1997)

GALAXIES: SEYFERT

ASCA Observations of Seyfert 1 Galaxies. II. Relativistic Iron K α Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob.* 477, 602 (1997)

A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. *Henrique R. Schmitt, Anne L. Kinney, Thaisa Storchi-Bergmann, & Robert Antonucci.* 477, 623 (1997)

Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill.* 477, 631 (1997)

The X-Ray Warm Absorber in NGC 3516. *Smita Mathur, Belinda J. Wilkes, & Thomas Aldcroft.* 478, 182 (1997)

Spallation of Iron in Black Hole Accretion Flows. *Jeffrey G. Skibo.* 478, 522 (1997)

Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bottorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford.* 479, 200 (1997)

The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet. *H. L. Marshall, T. E. Carone, B. M. Peterson, J. Clavel, D. M. Crenshaw, K. T. Korista, G. A. Kriss, J. H. Krolik, M. A. Malkan, S. L. Morris, P. T. O'Brien, & G. A. Reichert.* 479, 222 (1997)

Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn.* 479, L105 (1997)

GALAXIES: SPIRAL

Lopsided Spiral Galaxies and a Limit on the Galaxy Accretion Rate. *Dennis Zaritsky & Hans-Walter Rix.* 477, 118 (1997)

Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok.* 477, L79 (1997)

More Satellites of Spiral Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos Frenk, & Simon D. M. White.* 478, 39 (1997)

Synthesis Imaging of Dense Gas in Nearby Galaxies. *Tamara T. Helfer & Leo Blitz.* 478, 162 (1997)

Global Spiral Modes in a Three-Phase Gravitating Disk. *N. Kikuchi, V. Korchagin, & S. M. Miyama.* 478, 446 (1997)

Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)

NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakar, Barbara S. Ryden, Katherine P. Jore, & Adrick H. Broeils.* 479, 702 (1997)

Spiral Density Wave Theory, Corotation Resonance, and the Velocity Field of NGC 4321. *Blaise Canzian & Ronald J. Allen.* 479, 723 (1997)

GALAXIES: STARBURST

H α Imaging of the Candidate Protogalaxy MS 1512-cB58. *Jill Bechtold, H. K. C. Yee, Richard Elston, & E. Ellingson.* 477, L29 (1997)

Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions. *J. Stutzki, U. U. Graf, S. Haas, C. E. Honingh, D. Hottgenroth, K. Jacobs, R. Schieder, R. Simon, J. Staguhn, G. Winnewisser, R. N. Martin, W. L. Peters, & J. P. McMullin.* 477, L33 (1997)

Hubble Space Telescope Faint Object Spectrograph Spectroscopy of Localized Chemical Enrichment from Massive Stars in NGC 5253. *Henry A. Kobulnicky, Evan D. Skillman, Jean-René Roy, J. R. Walsh, & Michael R. Rosa.* 477, 679 (1997)

Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok.* 477, L79 (1997)

The Stellar Content of Giant H II Regions in NGC 7714. *María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich.* 478, 112 (1997)

Nuclear Starburst Hydrodynamics. *Guillermo Tenorio-Tagle & Casiana Muñoz-Tuñón.* 478, 134 (1997)

The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett.* 478, 144 (1997)

The Complex Broadband X-Ray Spectrum of the Starburst Galaxy M82. *Edward C. Moran & Matthew D. Lehnert.* 478, 172 (1997)

Recent Star Formation in Groups of Galaxies: HCG 31. *Jorge Iglesias-Páramo & José M. Vilchez.* 479, 190 (1997)

Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford.* 479, L9 (1997)

The Conelike H α Nebula in NGC 4945: A Galactic Superwind Bow Shock? *Yang Chen & Jie-Hao Huang.* 479, L23 (1997)

The Structure of the Super-Star Clusters in NGC 1569 from Hubble Space Telescope WFC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi.* 479, L27 (1997)

Infrared Spectroscopy of Blue Dwarf Galaxies. *L. Vanzi & G. H. Rieke.* 479, 694 (1997)

Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige.* 479, L97 (1997)

Artillery Shells over Circinus. *Sylvain Veilleux & Jonathan Bland-Hawthorn.* 479, L105 (1997)

GALAXIES: STAR CLUSTERS

The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deidre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair.* 478, 124 (1997)

Color-Magnitude Diagrams of Merged Globular Clusters: Metallicity Effects. *M. Catelan.* 478, L99 (1997)

The Structure of the Super-Star Clusters in NGC 1569 from Hubble Space Telescope WFC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi.* 479, L27 (1997)

GALAXIES: STATISTICS

Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies. *Alexandre Refregier, David J. Helfand, & Richard G. McMahon.* 477, 58 (1997)

GALAXIES: STELLAR CONTENT

Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the Hubble Space Telescope. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum.* 478, 49 (1997)

The Stellar Content of Giant H II Regions in NGC 7714. *María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich.* 478, 112 (1997)

Ultraviolet Imaging Observations of the cD Galaxy in Abell 1795: Further Evidence for Massive Star Formation in a Cooling Flow. *Eric P. Smith, Ralph C. Bohlin, G. D. Bothun, Robert W. O'Connell, Morton S. Roberts, Susan G. Neff, Andrew M. Smith, & Theodore P. Stecher.* 478, 516 (1997)

Dust in High-Redshift Galaxies. *Max Pettini, David L. King, Linda J. Smith, & Richard W. Hunstead.* 478, 536 (1997)

Recent Star Formation in Groups of Galaxies: HCG 31. *Jorge Iglesias-Páramo & José M. Vilchez.* 479, 190 (1997)

A Spectral Analysis of Two Compact Steep-Spectrum Sources. *D. M. Katz-Stone & L. Rudnick.* 479, 258 (1997)

The Structure of the Super-Star Clusters in NGC 1569 from Hubble Space Telescope WFC2 Images. *Guido De Marchi, Mark Clampin, Laura Greggio, Claus Leitherer, Antonella Nota, & Monica Tosi.* 479, L27 (1997)

GALAXIES: STRUCTURE

Lopsided Spiral Galaxies and a Limit on the Galaxy Accretion Rate. *Dennis Zaritsky & Hans-Walter Rix.* 477, 118 (1997)

A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. *Henrique R. Schmitt, Anne L. Kinney, Thaisa Storchi-Bergmann, & Robert Antonucci.* 477, 623 (1997)

Dynamical Stability and Environmental Influences in Low Surface Brightness Disk Galaxies. *J. Christopher Mihos, Stacy S. McGaugh, & W. J. G. de Blok.* 477, L79 (1997)

Synthesis Imaging of Dense Gas in Nearby Galaxies. *Tamara T. Helfer & Leo Blitz.* 478, 162 (1997)

Formation of Boxy and Disk Elliptical Galaxies in Early Dissipative Mergers. *Kenji Bekki & Yasuhiro Shioya.* 478, L17 (1997)

The Evolution of Dwarf Galaxies with Star Formation in an Outward-propagating Supershell. *Masao Mori, Yuzuru Yoshii, Takuji Tsujimoto, & Ken'ichi Nomoto.* 478, L21 (1997)

Global Spiral Modes in a Three-Phase Gravitating Disk. *N. Kikuchi, V. Korchagin, & S. M. Miyama.* 478, 446 (1997)

The Absence of Diffuse Gas around the Dwarf Spheroidal Galaxy Leo I. *David V. Bowen, Eline Tolstoy, Andrea Ferrara, J. Chris Blades, & Elias Brinks.* 478, 530 (1997)

A Warped Disk Model for M33 and the 21 Centimeter Line Width in Spiral Galaxies. *Edvige Corbelli & Stephen E. Schneider.* 479, 244 (1997)

Hubble Space Telescope Images of a Sample of 20 Nearby Luminous Quasars. *John N. Bahcall, Sofia Kirhakos, David H. Saxe, & Donald P. Schneider.* 479, 642 (1997)

VLB Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham.* 479, 684 (1997)

Spiral Density Wave Theory, Corotation Resonance, and the Velocity Field of NGC 4321. *Blaise Canzian & Ronald J. Allen.* 479, 723 (1997)

GALAXY: ABUNDANCES

Galactic Abundance Gradients from Infrared Fine-Structure Lines in Compact H II Regions. *A. Aflebach, E. Churchwell, & M. W. Werner.* 478, 190 (1997)

Low-Mass Stars and the ³He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Truran.* 479, 752 (1997)

GALAXY: CENTER

SiO Maser Sources toward the Sagittarius B2 Molecular Cloud. *Shigetomo Shiki, Masatoshi Ohishi, & Shuji Deguchi.* 478, 206 (1997)

Accretion Disk Evolution with Wind Infall. I. General Solution and Application to Sagittarius A*. *Heino Falcke & Fulvio Melia.* 479, 740 (1997)

GALAXY: FORMATION

Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz.* 477, 21 (1997)

Anisotropies in the Distribution of Satellite Galaxies. *Dennis Zaritsky, Rodney Smith, Carlos S. Frenk, & Simon D. M. White.* 478, L53 (1997)

GALAXY: GLOBULAR CLUSTERS: GENERAL

On Calibrating Brightest Asymptotic Giant Branch Stars as Age Indicators: The Bulge Globular Cluster NGC 6553 and the Age of M32. *Maria Donata Guarnieri, Alvio Renzini, & Sergio Ortolani.* 477, L21 (1997)

The Universe and Globular Clusters: An Age Conflict? *F. D'Antona, V. Caloi, & I. Mazzitelli.* 477, 519 (1997)

Color-Magnitude Diagrams of Merged Globular Clusters: Metallicity Effects. *M. Catelan.* 478, L99 (1997)

Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi.* 479, 279 (1997)

The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss.* 479, 665 (1997)

A Two-dimensional Computational Comparison of the Dynamic Interactions of Critical and Subcritical Mass Proto-Globular Cluster Clouds with the Protogalactic Background. *D. Digne.* 479, 792 (1997)

GALAXY: GLOBULAR CLUSTERS: INDIVIDUAL

Messier Number: M15

X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemitsos.* 477, 424 (1997)

The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss.* 479, 665 (1997)

Messier Number: M68

The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss.* 479, 665 (1997)

Messier Number: M92

The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss.* 479, 665 (1997)

NGC Number: NGC 6553

On Calibrating Brightest Asymptotic Giant Branch Stars as Age Indicators: The Bulge Globular Cluster NGC 6553 and the Age of M32. *Maria Donata Guarnieri, Alvio Renzini, & Sergio Ortolani.* 477, L21 (1997)

GALAXY: HALO

On the Significance of Population II ⁶Li Abundances. *Martin Lemoine, David N. Schramm, James W. Truran, & Craig J. Copi.* 478, 554 (1997)

High-Redshift Supernovae and the Metal-poor Halo Stars: Signatures of the First Generation of Galaxies. *Jordi Miralda-Escudé & Martin J. Rees.* 478, L57 (1997)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: GENERAL

Spatial Distribution of Embedded Clusters in the Rosette Molecular Cloud: Implications for Cluster Formation. *Randy L. Phelps & Elizabeth A. Lada.* 477, 176 (1997)

Hubble Space Telescope WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. *Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez.* 477, 705 (1997)

The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin.* 478, L103 (1997)

Integrated Near-Infrared Colors of Star Clusters: Analysis of the Stochastic Effects on the Initial Mass Function. *João F. C. Santos, Jr., & Jay A. Frogel.* 479, 764 (1997)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: INDIVIDUAL

Name: Hyades

The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. *Guillermo Torres, Robert P. Stefaniak, & David W. Latham.* 479, 268 (1997)

Name: Orion

Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts.* 478, 211 (1997)

Alphanumeric: IC 2391

Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa.* 479, 776 (1997)

Alphanumeric: IC 2602

Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa.* 479, 776 (1997)

GALAXY: STELLAR CONTENT

Satellite Parallaxes of Lensing Events toward the Galactic Bulge. *B. Scott Gaudi & Andrew Gould.* 477, 152 (1997)

Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kubiak, M. Kubiak, M. Matteo, & W. Krzemiński.* 477, 163 (1997)

Constraints from ²⁶Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann.* 479, 760 (1997)

GALAXY: STRUCTURE

Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymański, J. Kubiak, M. Kubiak, M. Matteo, & W. Krzemiński.* 477, 163 (1997)

GAMMA RAYS: BURSTS

Test for Cosmological Time Dilation in Long Gamma-Ray Bursts. *H. Che, Y. Yang, M. Wu, & T. P. Li.* 477, L69 (1997)

The Soft X-Ray Afterglow of Gamma-Ray Bursts, A Stringent Test for the Fireball Model. *Mario Vietri.* 478, L9 (1997)

- The Distance of the Soft Gamma Repeater SGR 1806-20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay.* 478, 624 (1997)
- Internal Luminosity Distribution of Bright Gamma-Ray Bursts and Its Relation to Duration and Spectral Hardness. *John M. Horack & Jon Hakkila.* 479, 371 (1997)
- Evidence for the Galactic Origin of Gamma-Ray Bursts. *B. M. Belli.* 479, L31 (1997)
- Physical Model of Gamma-Ray Burst Spectral Evolution. *Edison Liang, Masaaki Kusunose, I. A. Smith, & A. Crider.* 479, L35 (1997)
- Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts. *A. Crider, E. P. Liang, I. A. Smith, R. D. Preece, M. S. Briggs, G. N. Pendleton, W. S. Paciesas, D. L. Band, & J. L. Matteson.* 479, L39 (1997)
- A Search for TeV Counterparts to BATSE Gamma-Ray Bursts. *V. Connaughton, C. W. Akerlof, S. Barthelmy, S. Biller, P. Boyle, J. Buckley, D. A. Carter-Lewis, M. Catanese, M. F. Cawley, T. Cline, D. J. Fegan, J. Finley, G. J. Fishman, J. Gaidos, N. Gehrels, A. M. Hillas, C. Kouveliotou, F. Krennrich, R. C. Lamb, R. Lessard, J. McEnery, C. Meegan, G. Mohanty, N. A. Porter, J. Quinn, A. Rodgers, H. J. Rose, F. Samuelson, M. S. Schubnell, G. Sembroski, R. Srinivasan, T. C. Weekes, C. Wilson, & J. Zweerink.* 479, 859 (1997)
- Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette.* 479, 868 (1997)
- Are Abell Clusters Correlated with Gamma-Ray Bursts? *K. Hurley, D. Hartmann, C. Kouveliotou, G. Fishman, J. Laros, T. Cline, & M. Boer.* 479, L113 (1997)
- ### GAMMA RAYS: OBSERVATIONS
- The Relation between Gamma-Ray and Near-Infrared Radiation in Gamma-Ray-loud Blazars. *G. Z. Xie, Y. H. Zhang, & J. H. Fan.* 477, 114 (1997)
- Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst. *S. N. Zhang, K. Ebisawa, R. Sunyaev, Y. Ueda, B. A. Harmon, S. Sazonov, G. J. Fishman, H. Inoue, W. S. Paciesas, & T. Takahashi.* 479, 381 (1997)
- Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts. *A. Crider, E. P. Liang, I. A. Smith, R. D. Preece, M. S. Briggs, G. N. Pendleton, W. S. Paciesas, D. L. Band, & J. L. Matteson.* 479, L39 (1997)
- Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event. *H. Debrunner, J. A. Lockwood, C. Barat, R. Büchkofer, J. P. Dezalay, E. Flückiger, A. Kuznetsov, J. M. Ryan, R. Sunyaev, O. V. Terekhov, G. Trotter, & N. Vilmer.* 479, 997 (1997)
- Discovery of a Nonblazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04. *M. Tavani, R. Mukherjee, J. R. Mattox, J. Halpern, D. J. Thompson, G. Kanbach, W. Hermsen, S. N. Zhang, & R. S. Foster.* 479, L109 (1997)
- ### GAMMA RAYS: THEORY
- The Galactic Diffuse Gamma-Ray Spectrum from Cosmic-Ray Proton Interactions. *Masaki Mori.* 478, 225 (1997)
- Hadronic Production of TeV Gamma-Ray Flares from Blazars. *Arnon Dar & Ari Laor.* 478, L5 (1997)
- Pulsed e^{\pm} Annihilation γ -Ray Line from a Crab-like Pulsar. *Tianhua Zhu & Malvin Ruderman.* 478, 701 (1997)
- Electron Acceleration and the Production of Nonthermal Electron Distributions in Accretion Disk Coronae. *Hui Li & James A. Miller.* 478, L67 (1997)
- New Results on ^{26}Al Production in Classical Novae. *Jordi José, Margarita Hernanz, & Alain Coc.* 479, L55 (1997)
- VLBI Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham.* 479, 684 (1997)
- Constraints from ^{26}Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann.* 479, 760 (1997)
- ### GRAVITATION
- Large-Scale Filaments: Newtonian versus Modified Dynamics. *Mordehai Milgrom.* 478, 7 (1997)
- Self-regulated Accretion Disks. *G. Bertin.* 478, L71 (1997)
- Demonstrating Discreteness and Collision Error in Cosmological N -Body Simulations of Dark Matter Gravitational Clustering. *Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto.* 479, L79 (1997)
- ### HYDRODYNAMICS
- Photoionization, Numerical Resolution, and Galaxy Formation. *David H. Weinberg, Lars Hernquist, & Neal Katz.* 477, 8 (1997)
- X-Rays from the Impact of SN 1987A with Its Circumstellar Ring. *Kazimierz J. Borkowski, John M. Blondin, & Richard McCray.* 477, 281 (1997)
- Composition Mixing during Blue Straggler Formation and Evolution. *Eric L. Sandquist, Michael Bolte, & Lars Hernquist.* 477, 335 (1997)
- Hydrodynamical Models of Line-driven Accretion Disk Winds. *Nicolas Antonio Pereyra, Timothy R. Kallman, & John M. Blondin.* 477, 368 (1997)
- Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams.* 477, 410 (1997)
- Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio.* 477, 865 (1997)
- Nuclear Starburst Hydrodynamics. *Guillermo Tenorio-Tagle & Casiana Muñoz-Tuñón.* 478, 134 (1997)
- The Soft X-Ray Afterglow of Gamma-Ray Bursts, A Stringent Test for the Fireball Model. *Mario Vietri.* 478, L9 (1997)
- Gravitational Contraction of Rotating Clouds: Formation of Self-similarly Collapsing Disks. *Tomoaki Matsumoto, Tomoyuki Hanawa, & Fumitaka Nakamura.* 478, 569 (1997)
- Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein.* 478, 663 (1997)
- Deflagration-to-Detonation Transition in Thermonuclear Supernovae. *A. M. Khokhlov, E. S. Oran, & J. C. Wheeler.* 478, 678 (1997)
- Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benensohn, D. Q. Lamb, & R. E. Taam.* 478, 723 (1997)
- Self-regulated Accretion Disks. *G. Bertin.* 478, L71 (1997)
- Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell.* 478, L75 (1997)
- Morphology and Dynamics of Relativistic Jets. *J. M^a. Mari, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina.* 479, 151 (1997)
- Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick.* 479, 164 (1997)
- Accretion Disks around Kerr Black Holes: Vertical Equilibrium Revisited. *M. A. Abramowicz, A. Lanza, & M. J. Percival.* 479, 179 (1997)
- Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakhidze.* 479, 313 (1997)
- Evolution of Structure in the Intergalactic Medium and the Nature of the Ly α Forest. *HongGuang Bi & Arthur F. Davidsen.* 479, 523 (1997)
- NGC 4138: A Case Study in Counterrotating Disk Formation. *Aniruddha R. Thakur, Barbara S. Ryder, Katherine P. Jore, & Adrick H. Broeils.* 479, 702 (1997)
- A Two-dimensional Computational Comparison of the Dynamic Interactions of Critical and Subcritical Mass Proto-Globular Cluster Clouds with the Protogalactic Background. *D. Digne.* 479, 792 (1997)
- Demonstrating Discreteness and Collision Error in Cosmological N -Body Simulations of Dark Matter Gravitational Clustering. *Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto.* 479, L79 (1997)
- Testing Cosmological Models with a Ly α Forest Statistic: The High End of the Optical Depth Distribution. *Renyue Cen.* 479, L85 (1997)
- Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige.* 479, L97 (1997)
- ### INFRARED: GALAXIES
- Testing the Hubble Law with the IRAS 1.2 Jy Redshift Survey. *Daniel M. Koranyi & Michael A. Strauss.* 477, 36 (1997)
- The Tully-Fisher Relation and H_0 . *Riccardo Giovanelli, Martha P. Haynes, Luiz N. da Costa, Wolfram Freudling, John J. Salzer, & Gary Wegner.* 477, L1 (1997)

- Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill.* 477, 631 (1997)
- Origin of the Spread in the $B - K$ Color of Quasars. *R. Srikanth & Ajit Kembhavi.* 478, 70 (1997)
- The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett.* 478, 144 (1997)
- Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford.* 479, L9 (1997)
- Infrared Spectroscopy of Blue Dwarf Galaxies. *L. Vanzi & G. H. Rieke.* 479, 694 (1997)
- Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette.* 479, 868 (1997)
- INFRARED: ISM: CONTINUUM**
- Cirrus Color Variations Due to Enhanced Radiation Fields. *Sean J. Carey, R. F. Shipman, F. O. Clark, & Rob Assendorp.* 479, 303 (1997)
- High-Resolution Infrared Observations of GGD 27. *Bringsried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage.* 479, 339 (1997)
- INFRARED: ISM: LINES AND BANDS**
- Galactic Abundance Gradients from Infrared Fine-Structure Lines in Compact H II Regions. *A. Aflebach, E. Churchwell, & M. W. Werner.* 478, 190 (1997)
- Near-Infrared Spectrophotometry of HH 7-11. *Mark E. Everett.* 478, 246 (1997)
- Physical Conditions in the Photodissociation Region of NGC 2023. *Thomas Y. Steiman-Cameron, Michael R. Haas, A. G. G. M. Tielens, & Michael G. Burton.* 478, 261 (1997)
- Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
- Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. *Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson.* 479, 332 (1997)
- The 2140 cm^{-1} (4.673 Micron) Solid CO Band: The Case for Interstellar O_2 and N_2 and the Photochemistry of Nonpolar Interstellar Ice Analogs. *Jamie Elsila, Louis J. Allamandola, & Scott A. Sandford.* 479, 818 (1997)
- Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. *M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens.* 479, 839 (1997)
- INFRARED: STARS**
- The Superaluminous Source GRS 1915+105: A High Mass X-Ray Binary? *I. F. Mirabel, R. Bandopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodriguez.* 477, L45 (1997)
- The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie.* 477, 817 (1997)
- Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. *Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe.* 477, 825 (1997)
- Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tanja Liljeström & Göran Olofsson.* 478, 381 (1997)
- Adaptive Optics $0''.2$ Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves.* 478, 766 (1997)
- H_2 Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos.* 479, L71 (1997)
- Integrated Near-Infrared Colors of Star Clusters: Analysis of the Stochastic Effects on the Initial Mass Function. *João F. C. Santos, Jr., & Jay A. Frogel.* 479, 764 (1997)
- Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette.* 479, 868 (1997)
- The Near-Infrared Na I Doublet Feature in M Stars. *R. P. Schiavon, B. Barbuy, S. C. F. Rossi, & A. Milone.* 479, 902 (1997)
- Supernova Models for the Dust Shells around OH/IR Stars. *Kyung-Won Suh & Terry J. Jones.* 479, 918 (1997)

INSTABILITIES

- Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams.* 477, 410 (1997)
- Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio.* 477, 865 (1997)
- Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels.* 478, 94 (1997)
- Gravitational Contraction of Rotating Clouds: Formation of Self-similarly Collapsing Disks. *Tomoaki Matsumoto, Tomoyuki Hanawa, & Fumitaka Nakamura.* 478, 569 (1997)
- Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benenoh, D. Q. Lamb, & R. E. Taam.* 478, 723 (1997)
- Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell.* 478, L75 (1997)
- Gravitational Instability in Collisionless Cosmological Pancakes. *Azita Valinia, Paul R. Shapiro, Hugo Martel, & Ethan T. Vishniac.* 479, 46 (1997)
- Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakhidze.* 479, 313 (1997)
- A Two-dimensional Computational Comparison of the Dynamic Interactions of Critical and Subcritical Mass Proto-Globular Cluster Clouds with the Protogalactic Background. *D. Dine.* 479, 792 (1997)
- Magnetic Reconnection by Langmuir Solitons. *X. Q. Li & Z. D. Zhang.* 479, 1028 (1997)
- An Unstable Central Disk in the Superaluminous Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs.* 479, L145 (1997)
- INSTRUMENTATION: DETECTORS**
- High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleditch, J. Kristian, & C. R. Pennypacker.* 477, 465 (1997)
- Intracuclear Comptonization of the Cosmic Microwave Background: Mean Spectral Distortion and Cluster Number Counts. *S. Colafrancesco, P. Mazzotta, Y. Rephaeli, & N. Vittorio.* 479, 1 (1997)
- The Sunyaev-Zeldovich Infrared Experiment: A Millimeter-Wave Receiver for Cluster Cosmology. *W. L. Holzapfel, T. M. Wilbanks, P. A. R. Ade, S. E. Church, M. L. Fischer, P. D. Mauskopf, D. E. Osgood, & A. E. Lange.* 479, 17 (1997)
- Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongyue Dai, Charles C. H. Jui, & Paul Sommers.* 479, 547 (1997)
- ISM: ABUNDANCES**
- The Rate of the Reaction between CN and C_2H_2 at Interstellar Temperatures. *David E. Woon & Eric Herbst.* 477, 204 (1997)
- ^3He in Planetary Nebulae: A Challenge to Stellar Evolution Models. *Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla.* 477, 218 (1997)
- Astrophysical Extended X-Ray Absorption Fine-Structure Analysis. *Jonathan W. Woo, Robert C. Forrey, & Kyeongjae Cho.* 477, 235 (1997)
- Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert.* 477, 265 (1997)
- Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions. *J. Stutzki, U. U. Graf, S. Haas, C. E. Honingh, D. Hotgenroth, K. Jacobs, R. Schieder, R. Simon, J. Stagnu, G. Winnewisser, R. N. Martin, W. L. Peters, & J. P. McMullin.* 477, L33 (1997)
- Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin.* 477, L53 (1997)
- The Abundance of Interstellar Krypton. *Jason A. Cardelli & David M. Meyer.* 477, L57 (1997)
- Grains in Ionized Nebulae. II. Heavy-Element Depletion. *J. B. Kingdon & G. J. Ferland.* 477, 732 (1997)
- Detection of CO^+ toward the Reflection Nebula NGC 7023. *A. Fuente & J. Martín-Pintado.* 477, L107 (1997)

- Galactic Abundance Gradients from Infrared Fine-Structure Lines in Compact H II Regions. *A. Afflerbach, E. Churchwell, & M. W. Werner.* 478, 190 (1997)
- Dense Gas in the Milky Way. *Tamara T. Helfer & Leo Blitz.* 478, 233 (1997)
- The Formation of Large Hydrocarbons and Carbon Clusters in Dense Interstellar Clouds. *R. P. A. Bettens & Eric Herbst.* 478, 585 (1997)
- Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego.* 478, 648 (1997)
- Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
- Hydrogenation of Interstellar Molecules: A Survey for Methylenimine (CH_2NH). *J. E. Dickens, W. M. Irvine, C. H. DeVries, & M. Ohishi.* 479, 307 (1997)
- Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. *Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson.* 479, 332 (1997)
- Electron-Ion Recombination of Neutral Iron. *Sultana N. Nahar, Manuel A. Bautista, & Anil K. Pradhan.* 479, 497 (1997)
- Low-Mass Stars and the ^3He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Thuan.* 479, 752 (1997)
- Dust Grain Size Distributions and the Abundance of Refractory Elements in the Diffuse Interstellar Medium. *James E. O'Donnell & John S. Mathis.* 479, 806 (1997)
- The 2140 cm^{-1} (4.673 Micron) Solid CO Band: The Case for Interstellar O_2 and N_2 and the Photochemistry of Nonpolar Interstellar Ice Analogs. *Jamie Elsila, Louis J. Allamandola, & Scott A. Sandford.* 479, 818 (1997)
- ISM: ATOMS**
- The Abundance of Interstellar Krypton. *Jason A. Cardelli & David M. Meyer.* 477, L57 (1997)
- Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
- ISM: BUBBLES**
- An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren.* 478, 638 (1997)
- ISM: CLOUDS**
- Spatial Distribution of Embedded Clusters in the Rosette Molecular Cloud: Implications for Cluster Formation. *Randy L. Phelps & Elizabeth A. Lada.* 477, 176 (1997)
- Intercloud Structure in a Turbulent Fractal Interstellar Medium. *Bruce G. Elmegreen.* 477, 196 (1997)
- The Rate of the Reaction between CN and C_2H_2 at Interstellar Temperatures. *David E. Woon & Eric Herbst.* 477, 204 (1997)
- Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. *Debra Wolkovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer.* 477, 241 (1997)
- Nitrogen Sulfide in Giant Molecular Clouds. *Douglas McGonagle & William M. Irvine.* 477, 711 (1997)
- Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes.* 478, 295 (1997)
- Gravitational Contraction of Rotating Clouds: Formation of Self-similarly Collapsing Disks. *Tomoaki Matsumoto, Tomoyuki Hanawa, & Fumitaka Nakamura.* 478, 569 (1997)
- The Formation of Large Hydrocarbons and Carbon Clusters in Dense Interstellar Clouds. *R. P. A. Bettens & Eric Herbst.* 478, 585 (1997)
- Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
- H_2 Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos.* 479, L71 (1997)
- Dust Grain Size Distributions and the Abundance of Refractory Elements in the Diffuse Interstellar Medium. *James E. O'Donnell & John S. Mathis.* 479, 806 (1997)
- Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. *M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens.* 479, 839 (1997)
- ISM: COSMIC RAYS**
- Cosmic-Ray Protons and Magnetic Fields in Clusters of Galaxies and Their Cosmological Consequences. *Torsten A. Ensslin, Peter L. Biermann, Philipp P. Kronberg, & Xiang-Ping Wu.* 477, 560 (1997)
- The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts. *T. Takashima, T. Doke, T. Hayashi, J. Kikuchi, M. Kobayashi, H. Shirai, N. Takehana, M. Ehara, Y. Yamada, S. Yanagita, N. Hasebe, T. Kashiwagi, C. Kato, K. Munakata, T. Kohno, K. Kondoh, H. Murakami, A. Nakamoto, T. Yanagimachi, D. V. Reames, & T. T. von Rosenvinge.* 477, L111 (1997)
- The Influence of Pickup, Anomalous, and Galactic Cosmic-Ray Protons on the Structure of the Heliospheric Shock: A Self-consistent Approach. *Jakobus A. le Roux & Horst Fichtner.* 477, L115 (1997)
- The Galactic Diffuse Gamma-Ray Spectrum from Cosmic-Ray Proton Interactions. *Masaki Mori.* 478, 225 (1997)
- Ultra-High-Energy Cosmic Rays and the Large-Scale Structure of the Galactic Magnetic Field. *Todor Stanev.* 479, 290 (1997)
- Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications. *C.-X. Chen, S. Albero, Z. Caccia, S. Costa, H. J. Crawford, M. Cronqvist, J. Engelage, L. Greiner, T. G. Guzik, A. Insolia, C. N. Knott, P. J. Lindstrom, M. McMahon, J. W. Mitchell, R. Potenza, G. V. Russo, A. Soutoul, O. Testard, C. E. Tull, C. Tuve, C. J. Waddington, W. R. Webber, & J. P. Wefel.* 479, 504 (1997)
- Extremely High Energy Neutrinos and Their Detection. *Shigeru Yoshida, Hongue Dai, Charles C. H. Jui, & Paul Sommers.* 479, 547 (1997)
- Search for Antihelium in the Cosmic Rays. *R. L. Golden, S. J. Stochaj, S. A. Stephens, A. A. Moiseev, J. F. Ormes, R. E. Streimatter, T. Bowen, A. Moats, & J. Lloyd-Evans.* 479, 992 (1997)
- Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event. *H. Debrunner, J. A. Lockwood, C. Barat, R. Büttiker, J. P. Dezalay, E. Flückiger, A. Kuznetsov, J. M. Ryan, R. Sunyaev, O. V. Terekhov, G. Trotter, & N. Vilmer.* 479, 997 (1997)
- ISM: DUST, EXTINCTION**
- Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen.* 477, 398 (1997)
- X-Ray Emission from Dust in Hot Plasmas. *Kazimierz J. Borkowski & Andrew E. Szymkowiak.* 477, L49 (1997)
- A Self-consistent Photoionization-Dust Continuum-Molecular Line Transfer Model of NGC 7027. *Kevin Volk & Sun Kwok.* 477, 722 (1997)
- Grains in Ionized Nebulae. II. Heavy-Element Depletion. *J. B. Kingdon & G. J. Ferland.* 477, 732 (1997)
- Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. *Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe.* 477, 825 (1997)
- Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson.* 478, 395 (1997)
- The Effects of Radial Viscous Forces on the Structure of Accretion Disk Boundary Layers. *T. J. B. Collins.* 478, 417 (1997)
- Cirrus Color Variations Due to Enhanced Radiation Fields. *Sean J. Carey, R. F. Shipman, F. O. Clark, & Rob Assendorp.* 479, 303 (1997)
- The Detection of a Dust Trail in the Orbit of an Earth-threatening Long-Period Comet. *P. Jenniskens, H. Betlem, M. de Lignie, & M. Langbroek.* 479, 441 (1997)
- Dust Grain Size Distributions and the Abundance of Refractory Elements in the Diffuse Interstellar Medium. *James E. O'Donnell & John S. Mathis.* 479, 806 (1997)
- The 2140 cm^{-1} (4.673 Micron) Solid CO Band: The Case for Interstellar O_2 and N_2 and the Photochemistry of Nonpolar Interstellar Ice Analogs. *Jamie Elsila, Louis J. Allamandola, & Scott A. Sandford.* 479, 818 (1997)
- ISM: GENERAL**
- Intrinsic Profiles of Strong Diffuse Interstellar Bands. *J. Krelowski & M. Schmidt.* 477, 209 (1997)
- The First Observation of Sulfur in Anomalous Cosmic Rays by the GEOTAIL and the WIND Spacecrafts. *T. Takashima, T. Doke, T. Hayashi, J. Kikuchi, M. Kobayashi, H. Shirai, N. Takehana, M. Ehara, Y. Yamada, S. Yanagita, N. Hasebe, T. Kashiwagi, C. Kato,*

K. Munakata, T. Kohno, K. Kondoh, H. Murakami, A. Nakamoto, T. Yanagimachi, D. V. Reames, & T. T. von Rosenvinge. 477, L111 (1997)

The Galactic Diffuse Gamma-Ray Spectrum from Cosmic-Ray Proton Interactions. Masaki Mori. 478, 225 (1997)

ISM: GLOBULES

The Small-Scale Structure of the CO Outflow in Barnard 1. Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto. 478, 631 (1997)

H₂ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos. 479, L71 (1997)

ISM: H II REGIONS

The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. Eric M. Howard, David W. Koerner, & Judith L. Pipher. 477, 738 (1997)

The Stellar Content of Giant H II Regions in NGC 7714. María Luisa García-Vargas, Rosa M. González-Delgado, Enrique Pérez, Danielle Alloin, Angeles Díaz, & Elena Terlevich. 478, 112 (1997)

Galactic Abundance Gradients from Infrared Fine-Structure Lines in Compact H II Regions. A. Afflerbach, E. Churchwell, & M. W. Werner. 478, 190 (1997)

The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenault. 478, 271 (1997)

Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. T. R. Hunter, T. G. Phillips, & K. M. Menten. 478, 283 (1997)

A 2000 M_⊙ Rotating Molecular Disk around NGC 6334A. Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto. 478, 614 (1997)

The Distance of the Soft Gamma Repeater SGR 1806-20. S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay. 478, 624 (1997)

ISM: INDIVIDUAL

Name: Barnard 1

The Small-Scale Structure of the CO Outflow in Barnard 1. Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto. 478, 631 (1997)

Name: Crab Nebula

Generation of Crab Nebula Wisps by Plasma Drift Instability. O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakhidze. 479, 313 (1997)

Name: Orion Nebula

Hubble Space Telescope WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez. 477, 705 (1997)

Name: Rosette Molecular Complex

Spatial Distribution of Embedded Clusters in the Rosette Molecular Cloud: Implications for Cluster Formation. Randy L. Phelps & Elizabeth A. Lada. 477, 176 (1997)

Name: Sagittarius B2

SiO Maser Sources toward the Sagittarius B2 Molecular Cloud. Shigetomo Shiki, Masatoshi Ohishi, & Shuji Deguchi. 478, 206 (1997)

Name: Sandqvist 136

H₂ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos. 479, L71 (1997)

Name: Sharpless 269

The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenault. 478, 271 (1997)

Name: Taurus Molecular Cloud

Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. Debra Wolkovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer. 477, 241 (1997)

NGC Number: NGC 2023

Physical Conditions in the Photodissociation Region of NGC 2023. Thomas Y. Steiman-Cameron, Michael R. Haas, A. G. G. M. Tielens, & Michael G. Burton. 478, 261 (1997)

NGC Number: NGC 2264

Possible Infall around the Intermediate-Mass Young Stellar Object NGC 2264 IRS. Grace A. Wolf-Chase & Erik Gregersen. 479, L67 (1997)

NGC Number: NGC 6210

Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson. 479, 332 (1997)

NGC Number: NGC 6334A

A 2000 M_⊙ Rotating Molecular Disk around NGC 6334A. Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto. 478, 614 (1997)

NGC Number: NGC 7009

Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson. 479, 332 (1997)

NGC Number: NGC 7023

Detection of CO⁺ toward the Reflection Nebula NGC 7023. A. Fuente & J. Martín-Pintado. 477, L107 (1997)

NGC Number: NGC 7027

A Self-consistent Photoionization-Dust Continuum-Molecular Line Transfer Model of NGC 7027. Kevin Volk & Sun Kwok. 477, 722 (1997)

Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson. 479, 332 (1997)

Alphanumeric: DR 21

HCO⁺ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR 21 Star-forming Region. Jason Glenn, Christopher K. Walker, & P. R. Jewell. 479, 325 (1997)

Alphanumeric: G10.0-0.3

The Distance of the Soft Gamma Repeater SGR 1806-20. S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay. 478, 624 (1997)

Alphanumeric: G45.07+0.13

Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. T. R. Hunter, T. G. Phillips, & K. M. Menten. 478, 283 (1997)

Alphanumeric: G45.12+0.13

Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. T. R. Hunter, T. G. Phillips, & K. M. Menten. 478, 283 (1997)

Alphanumeric: GGD 27

High-Resolution Infrared Observations of GGD 27. Bringfried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage. 479, 339 (1997)

Alphanumeric: HH 1-2

Observations of Molecular Clouds in the HH 1-2 Region. Minho Choi & Shudong Zhou. 477, 754 (1997)

The Chemical Evolution of the Galaxy: The Two-Infall Model. C. Chiappini, F. Matteucci, & R. Gratton. 477, 765 (1997)

Alphanumeric: HH 7-11

Near-Infrared Spectrophotometry of HH 7-11. Mark E. Everett. 478, 246 (1997)

Alphanumeric: K3-50

The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. Eric M. Howard, David W. Koerner, & Judith L. Pipher. 477, 738 (1997)

Alphanumeric: L1448

New Herbig-Haro Flows in L1448 and L1455. J. Bally, David Devine, Victoria Allen, & R. S. Sutherland. 478, 603 (1997)

Alphanumeric: L1498

Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. Debra Wolkovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer. 477, 241 (1997)

Alphanumeric: S308

An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin,

- Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren. 478, 638 (1997)
- Alphanumeric: SN 1006**
 Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin.* 477, L53 (1997)
- Alphanumeric: SN 1987A**
 X-Rays from the Impact of SN 1987A with Its Circumstellar Ring. *Kazimierz J. Borkowski, John M. Blondin, & Richard McCray.* 477, 281 (1997)
- Alphanumeric: VLA 1623**
 BIMA Observations of the VLA 1623 Molecular Outflow. *T. Yu & L. M. Chernin.* 479, L63 (1997)
- Alphanumeric: W3**
 BIMA ^{13}CO Observations of W3. *D. A. Roberts, R. M. Crutcher, & T. H. Troland.* 479, 318 (1997)
- Alphanumeric: W31**
 The Distance of the Soft Gamma Repeater SGR 1806-20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay.* 478, 624 (1997)
- ISM: JETS AND OUTFLOWS**
 The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. *Eric M. Howard, David W. Koerner, & Judith L. Pipher.* 477, 738 (1997)
 Observations of Molecular Clouds in the HH 1-2 Region. *Minho Choi & Shudong Zhou.* 477, 754 (1997)
 The Chemical Evolution of the Galaxy: The Two-Infall Model. *C. Chiappini, F. Matteucci, & R. Gratton.* 477, 765 (1997)
 Near-Infrared Spectrophotometry of HH 7-11. *Mark E. Everett.* 478, 246 (1997)
 Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. *T. R. Hunter, T. G. Phillips, & K. M. Menten.* 478, 283 (1997)
 Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tarja Liljeström & Göran Olofsson.* 478, 381 (1997)
 Precessing Jets in Supersoft X-Ray Sources. *K. A. Southwell, M. Livio, & J. E. Pringle.* 478, L29 (1997)
 Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet.* 478, 594 (1997)
 New Herbig-Haro Flows in L1448 and L1455. *J. Bally, David Devine, Victoria Allen, & R. S. Sutherland.* 478, 603 (1997)
 The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto.* 478, 631 (1997)
 HCO $^{+}$ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR 21 Star-forming Region. *Jason Glenn, Christopher K. Walker, & P. R. Jewell.* 479, 325 (1997)
 BIMA Observations of the VLA 1623 Molecular Outflow. *T. Yu & L. M. Chernin.* 479, L63 (1997)
 Possible Infall around the Intermediate-Mass Young Stellar Object NGC 2264 IRS. *Grace A. Wolf-Chase & Erik Gregersen.* 479, L67 (1997)
 H $_2$ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos.* 479, L71 (1997)
- ISM: KINEMATICS AND DYNAMICS**
 The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. *Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenaault.* 478, 271 (1997)
 A 2000 M_{\odot} Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto.* 478, 614 (1997)
 Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades, M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego.* 478, 648 (1997)
- ISM: MAGNETIC FIELDS**
 Turbulent Diffusion of Large-Scale Magnetic Fields in the Presence of Ambipolar Drift. *Eun-Jin Kim.* 477, 183 (1997)
 Current Sheet Formation in the Interstellar Medium. *Ellen G. Zweibel & Axel Brandenburg.* 478, 563 (1997)
- Ultra-High-Energy Cosmic Rays and the Large-Scale Structure of the Galactic Magnetic Field. *Todor Stanev.* 479, 290 (1997)
 Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakhidze.* 479, 313 (1997)
 BIMA ^{13}CO Observations of W3. *D. A. Roberts, R. M. Crutcher, & T. H. Troland.* 479, 318 (1997)
 HCO $^{+}$ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR 21 Star-forming Region. *Jason Glenn, Christopher K. Walker, & P. R. Jewell.* 479, 325 (1997)
- ISM: MOLECULES**
 Spatial Distribution of Embedded Clusters in the Rosette Molecular Cloud: Implications for Cluster Formation. *Randy L. Phelps & Elizabeth A. Lada.* 477, 176 (1997)
 The Rate of the Reaction between CN and C $_2$ H $_2$ at Interstellar Temperatures. *David E. Woon & Eric Herbst.* 477, 204 (1997)
 Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. *Debra Wolkovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer.* 477, 241 (1997)
 Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert.* 477, 265 (1997)
 Relative Band Oscillator Strengths for Carbon Monoxide: A $^1\Pi-X^1\Sigma^+$ Transitions. *S. R. Federman, K. L. Menningen, Wei Lee, & J. B. Stoll.* 477, L61 (1997)
 Nitrogen Sulfide in Giant Molecular Clouds. *Douglas McGonagle & William M. Irvine.* 477, 711 (1997)
 A Self-consistent Photoionization-Dust Continuum-Molecular Line Transfer Model of NGC 7027. *Kevin Volk & Sun Kwok.* 477, 722 (1997)
 The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. *Eric M. Howard, David W. Koerner, & Judith L. Pipher.* 477, 738 (1997)
 Observations of Molecular Clouds in the HH 1-2 Region. *Minho Choi & Shudong Zhou.* 477, 754 (1997)
 The Chemical Evolution of the Galaxy: The Two-Infall Model. *C. Chiappini, F. Matteucci, & R. Gratton.* 477, 765 (1997)
 Neutral-Neutral Reactions in the Interstellar Medium. I. Formation of Carbon Hydride Radicals via Reaction of Carbon Atoms with Unsaturated Hydrocarbons. *R. I. Kaiser, D. Stranges, Y. T. Lee, & A. G. Suits.* 477, 982 (1997)
 Molecular Hydrogen Absorption in the $z = 1.97$ Damped Ly α Absorption System toward Quasi-stellar Object Q0013-004. *Jian Ge & Jill Bechtold.* 477, L73 (1997)
 Dense Gas in the Milky Way. *Tamara T. Helfer & Leo Blitz.* 478, 233 (1997)
 Physical Conditions in the Photodissociation Region of NGC 2023. *Thomas Y. Steiman-Cameron, Michael R. Haas, A. G. G. M. Tielens, & Michael G. Burton.* 478, 261 (1997)
 Resolving Redshifted Molecular Absorption toward the Gravitational Lens PKS 1830-211. *Brenda Frye, William J. Welch, & Tom Broadhurst.* 478, L25 (1997)
 Detection of a New Methanol Maser Line with the Kitt Peak 12 Meter Telescope by Remote Observing from Moscow. *V. I. Slysh, S. V. Kalenskii, I. E. Val'its, & V. V. Golubev.* 478, L37 (1997)
 The Formation of Large Hydrocarbons and Carbon Clusters in Dense Interstellar Clouds. *R. P. A. Bettens & Eric Herbst.* 478, 585 (1997)
 A 2000 M_{\odot} Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto.* 478, 614 (1997)
 The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto.* 478, 631 (1997)
 Atomic Carbon in Southern Hemisphere High-Latitude Clouds. *James G. Ingalls, Richard A. Chamberlin, T. M. Bania, James M. Jackson, Adair P. Lane, & Antony A. Stark.* 479, 296 (1997)
 Hydrogenation of Interstellar Molecules: A Survey for Methylenimine (CH $_2$ NH). *J. E. Dickens, W. M. Irvine, C. H. DeVries, & M. Ohishi.* 479, 307 (1997)
 BIMA ^{13}CO Observations of W3. *D. A. Roberts, R. M. Crutcher, & T. H. Troland.* 479, 318 (1997)

- Resolution and Kinematics of Molecular Gas Surrounding the Cloverleaf Quasar at $z = 2.6$ Using the Gravitational Lens. *M. S. Yun, N. Z. Scoville, J. J. Carrasco, & R. D. Blandford.* 479, L9 (1997)
- The 2140 cm^{-1} (4.673 Micron) Solid CO Band: The Case for Interstellar O_2 and N_2 and the Photochemistry of Nonpolar Interstellar Ice Analogs. *Jamie Elsila, Louis J. Allamandola, & Scott A. Sandford.* 479, 818 (1997)
- Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. *M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens.* 479, 839 (1997)
- ISM: PLANETARY NEBULAE: GENERAL**
- ^3He in Planetary Nebulae: A Challenge to Stellar Evolution Models. *Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla.* 477, 218 (1997)
- The Timescale Correlation Method: Distances to Planetary Nebulae with Halos. *Arsen R. Hajian, Adam Frank, Bruce Balick, & Yervant Terzian.* 477, 226 (1997)
- Planetary Nebulae as Standard Candles. XI. Application to Spiral Galaxies. *John J. Feldmeier, Robin Ciardullo, & George H. Jacoby.* 479, 231 (1997)
- Far-Infrared Spectroscopy of Planetary Nebulae with the Kuiper Airborne Observatory. *Robert H. Rubin, Sean W. J. Colgan, Michael R. Haas, Steven D. Lord, & Janet P. Simpson.* 479, 332 (1997)
- ISM: REFLECTION NEBULAE**
- Detection of CO^+ toward the Reflection Nebula NGC 7023. *A. Fuente & J. Martín-Pintado.* 477, L107 (1997)
- Physical Conditions in the Photodissociation Region of NGC 2023. *Thomas Y. Steiman-Cameron, Michael R. Haas, A. G. G. M. Tielens, & Michael G. Burton.* 478, 261 (1997)
- ISM: STRUCTURE**
- Intercloud Structure in a Turbulent Fractal Interstellar Medium. *Bruce G. Elmegreen.* 477, 196 (1997)
- The Timescale Correlation Method: Distances to Planetary Nebulae with Halos. *Arsen R. Hajian, Adam Frank, Bruce Balick, & Yervant Terzian.* 477, 226 (1997)
- Observations of Molecular Clouds in the HH 1–2 Region. *Minho Choi & Shudong Zhou.* 477, 754 (1997)
- The Chemical Evolution of the Galaxy: The Two-Infall Model. *C. Chiappini, F. Matteucci, & R. Gratton.* 477, 765 (1997)
- Dense Gas in the Milky Way. *Tamara T. Helfer & Leo Blitz.* 478, 233 (1997)
- The H II Region Sharpless 269. I. Morphological Study of the Radial Velocity, Velocity Dispersion, and Density Fields. *Steve Godbout, Gilles Joncas, Daniel Durand, & Robin Arsenault.* 478, 271 (1997)
- The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto.* 478, 631 (1997)
- Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakhidze.* 479, 313 (1997)
- High-Resolution Infrared Observations of GGD 27. *Bringfried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage.* 479, 339 (1997)
- The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven.* 479, 845 (1997)
- ISM: SUPERNOVA REMNANTS**
- X-Rays from the Impact of SN 1987A with Its Circumstellar Ring. *Kazimierz J. Borkowski, John M. Blondin, & Richard McCray.* 477, 281 (1997)
- X-Ray Emission from Dust in Hot Plasmas. *Kazimierz J. Borkowski & Andrew E. Szymkowiak.* 477, L49 (1997)
- Far-Ultraviolet Absorption Lines in the Remnant of SN 1006. *Chi-Chao Wu, D. Michael Crenshaw, Andrew J. S. Hamilton, Robert A. Fesen, Marvin Leventhal, & Craig L. Sarazin.* 477, L53 (1997)
- The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker.* 477, 848 (1997)
- Generation of Crab Nebula Wisps by Plasma Drift Instability. *O. Chedia, J. Lominadze, G. Machabeli, G. Mchedlishvili, & D. Shapakhidze.* 479, 313 (1997)
- The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven.* 479, 845 (1997)
- LINE: FORMATION**
- Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong.* 477, 509 (1997)
- Ultraviolet Emission-Line Ratios of Cataclysmic Variables. *Christopher W. Mauche, Y. Paul Lee, & Timothy R. Kallman.* 477, 832 (1997)
- Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados.* 478, L45 (1997)
- Dynamics of Broad Emission-Line Region in NGC 5548: Hydromagnetic Wind Model versus Observations. *Mark Bottorff, Kirk T. Korista, Isaac Shlosman, & Roger D. Blandford.* 479, 200 (1997)
- Properties of Statistical Equilibrium Equations: Positivity and Uniqueness. *George B. Rybicki.* 479, 357 (1997)
- LINE: IDENTIFICATION**
- Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. *M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens.* 479, 839 (1997)
- LINE: PROFILES**
- Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz.* 477, 21 (1997)
- Intrinsic Profiles of Strong Diffuse Interstellar Bands. *J. Krelowski & M. Schmidt.* 477, 209 (1997)
- Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados.* 478, L45 (1997)
- An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren.* 478, 638 (1997)
- Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres.* 478, 745 (1997)
- On the Observational Evidence for Accretion Disks in Active Galactic Nuclei. *Mario Livio & Chun Xu.* 478, L63 (1997)
- Investigating the Nonthermal Velocity of Small GOES-Class Flares Observed by Yohkoh. *L. K. Harra-Murnion, K. Akita, & T. Watanabe.* 479, 464 (1997)
- Possible Infall around the Intermediate-Mass Young Stellar Object NGC 2264 IRS. *Grace A. Wolf-Chase & Erik Gregersen.* 479, L67 (1997)
- MAGNETIC FIELDS**
- Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein.* 478, L91 (1997)
- On the Rotation and Magnetic Field Evolution of Superconducting Strange Stars. *H. F. Chau.* 479, 886 (1997)
- Variations in Optical S $^+$ Emission from the Io Plasma Torus: Evidence for Quasi-Periodicity. *R. Carey Woodward, Jr., Frank Scherb, & Fred L. Roesler.* 479, 984 (1997)
- General Relativistic Effects on the Ohmic Decay of Crustal Magnetic Fields in Neutron Stars. *Sujan Sengupta.* 479, L133 (1997)
- MAGNETOHYDRODYNAMICS: MHD**
- Turbulent Diffusion of Large-Scale Magnetic Fields in the Presence of Ambipolar Drift. *Eun-Jin Kim.* 477, 183 (1997)
- A Two-dimensional Simulation of a Relativistic Jet Bent by an Oblique Magnetic Field. *Shinji Koide.* 478, 66 (1997)
- Current Sheet Formation in the Interstellar Medium. *Ellen G. Zweibel & Axel Brandenburg.* 478, 563 (1997)
- Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet.* 478, 594 (1997)
- Hot and Superhot Plasmas above an Impulsive Flare Loop. *Saku Tsuneta, Satoshi Masuda, Takeo Kosugi, & Jun Sato.* 478, 787 (1997)
- Newtonian Evolution of the Weyl Tensor. *G. F. R. Ellis & P. K. S. Dunsby.* 479, 97 (1997)
- Magnetic Reconnection by Langmuir Solitons. *X. Q. Li & Z. D. Zhang.* 479, 1028 (1997)

MASERS

- Ejection of Matter and Energy from NGC 4258. *E. M. Burbidge & G. Burbidge.* 477, L13 (1997)
- SiO Masers Sources toward the Sagittarius B2 Molecular Cloud. *Shigetomo Shiki, Masatoshi Ohishi, & Shuji Deguchi.* 478, 206 (1997)
- Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. *T. R. Hunter, T. G. Phillips, & K. M. Menten.* 478, 283 (1997)
- Detection of a New Methanol Maser Line with the Kitt Peak 12 Meter Telescope by Remote Observing from Moscow. *V. I. Shysh, S. V. Kalenskii, I. E. Val'its, & V. V. Golubev.* 478, L37 (1997)

METEORS, METEOROIDS

- Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen.* 477, 398 (1997)
- The Detection of a Dust Trail in the Orbit of an Earth-threatening Long-Period Comet. *P. Jenniskens, H. Betlem, M. de Lignie, & M. Langbroek.* 479, 441 (1997)

METHODS: ANALYTICAL

- Self-Similarity and the Pair Velocity Dispersion. *Somnath Bharadwaj.* 477, 1 (1997)
- Properties of Statistical Equilibrium Equations: Positivity and Uniqueness. *George B. Rybicki.* 479, 357 (1997)

METHODS: DATA ANALYSIS

- A Search for TeV Counterparts to BATSE Gamma-Ray Bursts. *V. Connaughton, C. W. Akerlof, S. Barthelmy, S. Biller, P. Boyle, J. Buckley, D. A. Carter-Lewis, M. Catanese, M. F. Cawley, T. Cline, D. J. Fegan, J. Finley, G. J. Fishman, J. Gaidos, N. Gehrels, A. M. Hillas, S. Kowalewicz, F. Krennrich, R. C. Lamb, R. Lessard, J. McEnery, C. Meegan, G. Mohanty, N. A. Porter, J. Quinn, A. Rodgers, H. J. Rose, F. Samuelson, M. S. Schubnell, G. Sembroski, R. Srinivasan, T. C. Weekes, C. Wilson, & J. Zweerink.* 479, 859 (1997)

METHODS: LABORATORY

- Neutral-Neutral Reactions in the Interstellar Medium. I. Formation of Carbon Hydride Radicals via Reaction of Carbon Atoms with Unsaturated Hydrocarbons. *R. I. Kaiser, D. Stranges, Y. T. Lee, & A. G. Suits.* 477, 982 (1997)
- Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications. *C.-X. Chen, S. Albero, Z. Caccia, S. Costa, H. J. Crawford, M. Cronqvist, J. Engelage, L. Greiner, T. G. Guzik, A. Insolia, C. N. Knott, P. J. Lindstrom, M. McMahon, J. W. Mitchell, R. Potenza, G. V. Russo, A. Soutoul, O. Testard, C. E. Tull, C. Tuvé, C. J. Waddington, W. R. Webber, & J. P. Wefel.* 479, 504 (1997)

METHODS: NUMERICAL

- Photoionization, Numerical Resolution, and Galaxy Formation. *David H. Weinberg, Lars Hernquist, & Neal Katz.* 477, 8 (1997)
- Voigt-Profile Analysis of the Ly α Forest in a Cold Dark Matter Universe. *Romeel Davé, Lars Hernquist, David H. Weinberg, & Neal Katz.* 477, 21 (1997)
- The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkin, & G. Wegner.* 477, 79 (1997)
- Lopsided Spiral Galaxies and a Limit on the Galaxy Accretion Rate. *Dennis Zaritsky & Hans-Walter Rix.* 477, 118 (1997)
- Prospects for Cosmology with Cluster Mass Profiles. *Mary M. Crone, Fabio Governato, Joachim Stadel, & Thomas Quinn.* 477, L5 (1997)
- On the Origin of Cusps in Dark Matter Halos. *Toshiyuki Fukushige & Junichiro Makino.* 477, L9 (1997)
- Stokes's Theorem Applied to Microlensing of Finite Sources. *Andrew Gould & Cédric Gaucherel.* 477, 580 (1997)
- The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. *Julio F. Navarro & Matthias Steinmetz.* 478, 13 (1997)
- Merging of Galaxies with Central Black Holes. II. Evolution of the Black Hole Binary and the Structure of the Core. *Junichiro Makino.* 478, 58 (1997)
- A Two-dimensional Simulation of a Relativistic Jet Bent by an Oblique Magnetic Field. *Shinji Koide.* 478, 66 (1997)
- Sub-Grid Scale Modeling: Correct Models and Others. *V. M. Canuto.* 478, 322 (1997)

- A Maximum Entropy Method with a Priori Maximum Likelihood Constraints. *R. G. Lyon, J. M. Hollis, & J. E. Dorband.* 478, 658 (1997)

- The 6 Centimeter Light Curves of B0957+561, 1979–1994: New Features and Implications for the Time Delay. *D. B. Haarsma, J. N. Hewitt, J. Lehar, & B. F. Burke.* 479, 102 (1997)

- Morphology and Dynamics of Relativistic Jets. *J. M^a. Martí, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina.* 479, 151 (1997)

- The Ellipticity and Orientation of Clusters of Galaxies in *N*-Body Experiments. *Randall J. Splinter, Adrian L. Melott, Angela M. Linn, Charles Buck, & Jeremy Tinker.* 479, 632 (1997)

METHODS: STATISTICAL

- Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies. *Alexandre Refregier, David J. Helfand, & Richard G. McMahon.* 477, 58 (1997)

- The Effects of Radial Viscous Forces on the Structure of Accretion Disk Boundary Layers. *T. J. B. Collins.* 478, 417 (1997)

- A Maximum Entropy Method with a Priori Maximum Likelihood Constraints. *R. G. Lyon, J. M. Hollis, & J. E. Dorband.* 478, 658 (1997)

- Evolution of the Low-Energy Photon Spectral in Gamma-Ray Bursts. *A. Crider, E. P. Liang, I. A. Smith, R. D. Preece, M. S. Briggs, G. N. Pendleton, W. S. Paciesas, D. L. Band, & J. L. Matteson.* 479, L39 (1997)

MOLECULAR DATA

- Relative Band Oscillator Strengths for Carbon Monoxide: A $1^1\Pi-X^1\Sigma^+$ Transitions. *S. R. Federman, K. L. Menningen, Wei Lee, & J. B. Stoll.* 477, L61 (1997)

- Laboratory Detection of the C₅N Radical by Fourier-Transform Microwave Spectroscopy. *Y. Kasai, Y. Sumiyoshi, Y. Endo, & K. Kawaguchi.* 477, L65 (1997)

- Possible Infall around the Intermediate-Mass Young Stellar Object NGC 2264 IRS. *Grace A. Wolf-Chase & Erik Gregersen.* 479, L67 (1997)

MOLECULAR PROCESSES

- The Rate of the Reaction between CN and C₂H₂ at Interstellar Temperatures. *David E. Woon & Eric Herbst.* 477, 204 (1997)

- Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert.* 477, 265 (1997)

- Laboratory Detection of the C₅N Radical by Fourier-Transform Microwave Spectroscopy. *Y. Kasai, Y. Sumiyoshi, Y. Endo, & K. Kawaguchi.* 477, L65 (1997)

- A Self-consistent Photoionization–Dust Continuum–Molecular Line Transfer Model of NGC 7027. *Kevin Volk & Sun Kwok.* 477, 722 (1997)

- Neutral-Neutral Reactions in the Interstellar Medium. I. Formation of Carbon Hydride Radicals via Reaction of Carbon Atoms with Unsaturated Hydrocarbons. *R. I. Kaiser, D. Stranges, Y. T. Lee, & A. G. Suits.* 477, 982 (1997)

- The Effects of Radial Viscous Forces on the Structure of Accretion Disk Boundary Layers. *T. J. B. Collins.* 478, 417 (1997)

- The Formation of Large Hydrocarbons and Carbon Clusters in Dense Interstellar Clouds. *R. P. A. Bettens & Eric Herbst.* 478, 585 (1997)

- Properties of Statistical Equilibrium Equations: Positivity and Uniqueness. *George B. Rybicki.* 479, 357 (1997)

- Radiative Association Rates and Structure of Resonances for Li and Li⁺ Colliding with H and H⁺. *F. A. Gianturco & P. Gori Giorgi.* 479, 560 (1997)

- Dust Grain Size Distributions and the Abundance of Refractory Elements in the Diffuse Interstellar Medium. *James E. O'Donnell & John S. Mathis.* 479, 806 (1997)

- Solid Carbonyl Sulfide (OCS) in Dense Molecular Clouds. *M. E. Palumbo, T. R. Geballe, & A. G. G. M. Tielens.* 479, 839 (1997)

- Molecules in Type Ia Supernovae. *Weihong Liu.* 479, 907 (1997)

NUCLEAR REACTIONS, NUCLEOSYNTHESIS, ABUNDANCES

- ^3He in Planetary Nebulae: A Challenge to Stellar Evolution Models. *Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla.* 477, 218 (1997)

- Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato.* 477, 294 (1997)

- Thermonuclear Burning on the Accreting X-Ray Pulsar GRO J1744–28. *Lars Bildsten & Edward F. Brown*. 477, 897 (1997)
- Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini*. 478, 332 (1997)
- Spallation of Iron in Black Hole Accretion Flows. *Jeffrey G. Skibo*. 478, 522 (1997)
- On the Significance of Population II ^6Li Abundances. *Martin Lemoine, David N. Schramm, James W. Truran, & Craig J. Copi*. 478, 554 (1997)
- Stochastic Isocurvature Baryon Fluctuations, Baryon Diffusion, and Primordial Nucleosynthesis. *H. Kurki-Suonio, K. Jedamzik, & G. J. Mathews*. 479, 31 (1997)
- Relativistic Interaction of ^{22}Ne and ^{26}Mg in Hydrogen and the Cosmic-Ray Implications. *C.-X. Chen, S. Albero, Z. Caccia, S. Costa, H. J. Crawford, M. Cronqvist, J. Engelage, L. Greiner, T. G. Guzik, A. Insolia, C. N. Knott, P. J. Lindstrom, M. McMahon, J. W. Mitchell, R. Potenza, G. V. Russo, A. Soutoul, O. Testard, C. E. Tull, C. Tuve, C. J. Waddington, W. R. Webb, & J. P. Wefel*. 479, 504 (1997)
- New Results on ^{26}Al Production in Classical Novae. *Jordi José, Margarita Hernanz, & Alain Coc*. 479, L55 (1997)
- Low-Mass Stars and the ^3He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Truran*. 479, 752 (1997)
- Constraints from ^{26}Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann*. 479, 760 (1997)
- ## NUMERICAL METHODS
- Demonstrating Discreteness and Collision Error in Cosmological N -Body Simulations of Dark Matter Gravitational Clustering. *Adrian L. Melott, Sergei F. Shandarin, Randall J. Splinter, & Yasushi Suto*. 479, L79 (1997)
- ## OCCULTATIONS
- High-Resolution Infrared Observations of GGD 27. *Bringfried Stecklum, Markus Feldt, Andrea Richichi, Giovanni Calamai, & Pierre Olivier Lagage*. 479, 339 (1997)
- ## PLANETS AND SATELLITES: GENERAL
- Stokes's Theorem Applied to Microlensing of Finite Sources. *Andrew Gould & Cédric Gaucherel*. 477, 580 (1997)
- ## PLANETS AND SATELLITES: INDIVIDUAL
- ### Io
- Variations in Optical S^+ Emission from the Io Plasma Torus: Evidence for Quasi Periodicity. *R. Carey Woodward, Jr., Frank Scherb, & Fred L. Roesler*. 479, 984 (1997)
- ### Jupiter
- Variations in Optical S^+ Emission from the Io Plasma Torus: Evidence for Quasi Periodicity. *R. Carey Woodward, Jr., Frank Scherb, & Fred L. Roesler*. 479, 984 (1997)
- ## PLASMAS
- Thermal Conduction by Electrons in Hot Dense Plasmas. *A. H. Khalfaoui & D. Bennaceur*. 478, 326 (1997)
- Accurate Hydrogen Spectral Simulations with a Compact Model Atom. *Jason W. Ferguson & Gary J. Ferland*. 479, 363 (1997)
- Classical Electron-Ion Coulomb Bremsstrahlung in Weakly Coupled Plasmas. *Young-Dae Jung & Kwang-Sup Yang*. 479, 912 (1997)
- Variations in Optical S^+ Emission from the Io Plasma Torus: Evidence for Quasi Periodicity. *R. Carey Woodward, Jr., Frank Scherb, & Fred L. Roesler*. 479, 984 (1997)
- Escaping Radio Emission from Pulsars: Possible Role of Velocity Shear. *Swadesh M. Mahajan, George Z. Machabeli, & Andria D. Rogava*. 479, L129 (1997)
- ## POLARIZATION
- Scattering and Dichroic Extinction: Polarimetric Signatures of Galaxies. *Kenneth Wood*. 477, L25 (1997)
- Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman*. 477, 926 (1997)
- Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson*. 478, 395 (1997)
- Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados*. 478, L45 (1997)
- Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet*. 478, 594 (1997)
- HCO $^+$ Spectropolarimetry and Millimeter Continuum Polarimetry of the DR 21 Star-forming Region. *Jason Glenn, Christopher K. Walker, & P. R. Jewell*. 479, 325 (1997)
- ## RADIATION MECHANISMS: NONTHERMAL
- The Relation between Gamma-Ray and Near-Infrared Radiation in Gamma-Ray-loud Blazars. *G. Z. Xie, Y. H. Zhang, & J. H. Fan*. 477, 114 (1997)
- Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259–63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons*. 477, 439 (1997)
- High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleburgh, J. Kristian, & C. R. Pennypacker*. 477, 465 (1997)
- Multiwavelength Variability of the Synchrotron Self-Compton Model for Blazar Emission. *Mark W. Sincell*. 477, 574 (1997)
- Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels*. 478, 94 (1997)
- The Complex Broadband X-Ray Spectrum of the Starburst Galaxy M82. *Edward C. Moran & Matthew D. Lehner*. 478, 172 (1997)
- Three Modes of Pulsar Inner Gap. *B. Zhang, G. J. Qiao, W. P. Lin, & J. L. Han*. 478, 313 (1997)
- Hadronic Production of TeV Gamma-Ray Flares from Blazars. *Arnon Dar & Ari Laor*. 478, L5 (1997)
- The Soft X-Ray Afterglow of Gamma-Ray Bursts, A Stringent Test for the Fireball Model. *Mario Vietri*. 478, L9 (1997)
- ASCA and ROSAT X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali*. 478, 492 (1997)
- Pulsed e^{\pm} Annihilation γ -Ray Line from a Crab-like Pulsar. *Tianhua Zhu & Malvin Ruderman*. 478, 701 (1997)
- X-Ray Transmission in Cold Matter: Nonrelativistic Corrections for Compton Scattering. *Tahir Yaqoob*. 479, 184 (1997)
- Classical Electron-Ion Coulomb Bremsstrahlung in Weakly Coupled Plasmas. *Young-Dae Jung & Kwang-Sup Yang*. 479, 912 (1997)
- ## RADIATION MECHANISMS: THERMAL
- Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan*. 477, 585 (1997)
- ## RADIATIVE TRANSFER
- Photoionization, Numerical Resolution, and Galaxy Formation. *David H. Weinberg, Lars Hernquist, & Neal Katz*. 477, 8 (1997)
- Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen*. 477, 398 (1997)
- Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong*. 477, 509 (1997)
- Scattering and Dichroic Extinction: Polarimetric Signatures of Galaxies. *Kenneth Wood*. 477, L25 (1997)
- A Self-consistent Photoionization-Dust Continuum-Molecular Line Transfer Model of NGC 7027. *Kevin Volk & Sun Kwok*. 477, 722 (1997)
- Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman*. 477, 926 (1997)
- The Effects of a Photoionizing Ultraviolet Background on the Formation of Disk Galaxies. *Julio F. Navarro & Matthias Steinmetz*. 478, 13 (1997)
- Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados*. 478, L45 (1997)
- Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein*. 478, 663 (1997)
- Heating of a Star by Disk Accretion. *Robert Popham*. 478, 734 (1997)
- X-Ray Transmission in Cold Matter: Nonrelativistic Corrections for Compton Scattering. *Tahir Yaqoob*. 479, 184 (1997)

Properties of Statistical Equilibrium Equations: Positivity and Uniqueness. *George B. Rybicki*. 479, 357 (1997)

Molecules in Type Ia Supernovae. *Weihong Liu*. 479, 907 (1997)

Radiative Avalanche: Starburst-induced Fueling to Active Galactic Nuclei. *Masayuki Umemura, Jun Fukue, & Shin Mineshige*. 479, L97 (1997)

RADIO CONTINUUM: GALAXIES

Large-Scale QSO-Galaxy Correlations for Radio-loud and Optically Selected QSO Samples. *N. Benítez & E. Martínez-González*. 477, 27 (1997)

Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan*. 477, 585 (1997)

A Comparison of Radio Axis with Host Galaxy Plane Axis in Seyfert Galaxies. *Henrique R. Schmitt, Anne L. Kinney, Thaísa Storchi-Bergmann, & Robert Antonucci*. 477, 623 (1997)

A Spectral Analysis of Two Compact Steep-Spectrum Sources. *D. M. Katz-Stone & L. Rudnick*. 479, 258 (1997)

VLBI Observations of the Gamma-Ray Blazar 1611+343. *B. Glenn Piner & Kerry A. Kingham*. 479, 684 (1997)

RADIO CONTINUUM: ISM

The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven*. 479, 845 (1997)

RADIO CONTINUUM: STARS

The Drifting Behavior of PSR 0031-07. *M. Vivekanand & B. C. Joshi*. 477, 431 (1997)

RADIO LINES: GALAXIES

The Molecular Interstellar Medium in Ultraluminous Infrared Galaxies. *P. M. Solomon, D. Downes, S. J. E. Radford, & J. W. Barrett*. 478, 144 (1997)

Synthesis Imaging of Dense Gas in Nearby Galaxies. *Tamara T. Helfer & Leo Blitz*. 478, 162 (1997)

A Warped Disk Model for M33 and the 21 Centimeter Line Width in Spiral Galaxies. *Edvige Corbelli & Stephen E. Schneider*. 479, 244 (1997)

RADIO LINES: ISM

Physical Conditions in Quiescent Dark Cloud Cores Determined from Multitransition Observations of CCS. *Debra Wolkovitch, William D. Langer, Paul F. Goldsmith, & Mark Heyer*. 477, 241 (1997)

Atomic Carbon in M82: Physical Conditions Derived from Simultaneous Observations of the [C I] Fine-Structure Submillimeter-Wave Transitions. *J. Stutzki, U. U. Graf, S. Haas, C. E. Honingh, D. Hotgeroth, K. Jacobs, R. Schieder, R. Simon, J. Stagnuhn, G. Winnewisser, R. N. Martin, W. L. Peters, & J. P. McMullin*. 477, L33 (1997)

Nitrogen Sulfide in Giant Molecular Clouds. *Douglas McGonagle & William M. Irvine*. 477, 711 (1997)

The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. *Eric M. Howard, David W. Koerner, & Judith L. Pipher*. 477, 738 (1997)

Detection of CO⁺ toward the Reflection Nebula NGC 7023. *A. Fuente & J. Martín-Pintado*. 477, L107 (1997)

SiO Maser Sources toward the Sagittarius B2 Molecular Cloud. *Shigetomo Shiki, Masatoshi Ohishi, & Shuji Deguchi*. 478, 206 (1997)

Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. *T. R. Hunter, T. G. Phillips, & K. M. Menten*. 478, 283 (1997)

Detection of a New Methanol Maser Line with the Kitt Peak 12 Meter Telescope by Remote Observing from Moscow. *V. I. Slysh, S. V. Kalenskii, I. E. Val'us, & V. V. Golubev*. 478, L37 (1997)

A 2000 M_⊙ Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto*. 478, 614 (1997)

The Small-Scale Structure of the CO Outflow in Barnard 1. *Naomi Hirano, Osamu Kameya, Hitomi Mikami, Shuji Saito, Tomofumi Umemoto, & Satoshi Yamamoto*. 478, 631 (1997)

BIMA ¹³CO Observations of W3. *D. A. Roberts, R. M. Crutcher, & T. H. Troland*. 479, 318 (1997)

RADIO LINES: STARS

Detection of HCCNC from IRC +10216. *P. D. Gensheimer*. 479, L75 (1997)

RELATIVITY

Comments on Misunderstandings of Relativity and the Theoretical Interpretation of the Kreuzer Experiment. *C. Y. Lo*. 477, 700 (1997)

A Two-dimensional Simulation of a Relativistic Jet Bent by an Oblique Magnetic Field. *Shinji Koide*. 478, 66 (1997)

The Soft X-Ray Afterglow of Gamma-Ray Bursts, A Stringent Test for the Fireball Model. *Mario Vietri*. 478, L9 (1997)

Newtonian Evolution of the Weyl Tensor. *G. F. R. Ellis & P. K. S. Dunsby*. 479, 97 (1997)

Morphology and Dynamics of Relativistic Jets. *J. M^a. Martí, E. Müller, J. A. Font, J. M^a. Ibáñez, & A. Marquina*. 479, 151 (1997)

Relativistic Tidal Interaction of Stars with a Rotating Black Hole. *P. Diener, V. P. Frolov, A. M. Khokhlov, I. D. Novikov, & C. J. Pethick*. 479, 164 (1997)

Accretion Disks around Kerr Black Holes: Vertical Equilibrium Revisited. *M. A. Abramowicz, A. Lanza, & M. J. Percival*. 479, 179 (1997)

General Relativistic Effects on the Ohmic Decay of Crustal Magnetic Fields in Neutron Stars. *Sujan Sengupta*. 479, L133 (1997)

SCATTERING

Scattering and Dichroic Extinction: Polarimetric Signatures of Galaxies. *Kenneth Wood*. 477, L25 (1997)

X-Ray Transmission in Cold Matter: Nonrelativistic Corrections for Compton Scattering. *Tahir Yaqoob*. 479, 184 (1997)

SHOCK WAVES

Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert*. 477, 265 (1997)

Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259-63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons*. 477, 439 (1997)

Multiwavelength Variability of the Synchrotron Self-Compton Model for Blazar Emission. *Mark W. Sincell*. 477, 574 (1997)

The Influence of Pickup, Anomalous, and Galactic Cosmic-Ray Protons on the Structure of the Heliospheric Shock: A Self-consistent Approach. *Jakobus A. le Roux & Horst Fichtner*. 477, L115 (1997)

Near-Infrared Spectrophotometry of HH 7-11. *Mark E. Everett*. 478, 246 (1997)

The Soft X-Ray Afterglow of Gamma-Ray Bursts, A Stringent Test for the Fireball Model. *Mario Vietri*. 478, L9 (1997)

Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet*. 478, 594 (1997)

The Conelike H α Nebula in NGC 4945: A Galactic Superwind Bow Shock? *Yang Chen & Jie-Hao Huang*. 479, L23 (1997)

The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven*. 479, 845 (1997)

SOLAR SYSTEM: FORMATION

Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen*. 477, 398 (1997)

Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams*. 477, 410 (1997)

STARS: ABUNDANCES

The Composition of Nova Ejecta from Multicycle Evolution Models. *Atay Kovetz & Dina Prialnik*. 477, 356 (1997)

X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemis*. 477, 424 (1997)

Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts*. 478, 211 (1997)

Stellar Coronal Abundances. V. Evidence for the First Ionization Potential Effect in α Centauri. *Jeremy J. Drake, J. Martin Laming, & Kenneth G. Widing*. 478, 403 (1997)

On the Significance of Population II ⁶Li Abundances. *Martin Lemoine, David N. Schramm, James W. Truran, & Craig J. Copi*. 478, 554 (1997)

The ⁹Be Abundances of α Centauri A and B and the Sun: Implications for Stellar Evolution and Mixing. *Jeremy R. King, Constantine P. Deliyannis, & Ann Merchant Boesgaard*. 478, 778 (1997)

Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi*. 479, 279 (1997)

- Abundance Analyses of the Field RV Tauri Variables: EP Lyrae, DY Orionis, AR Puppis, and R Sagittae. *Guillermo Gonzalez, David L. Lambert, & Sunetra Giridhar*. 479, 427 (1997)
- The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak*. 479, 960 (1997)
- STARS: ACTIVITY**
- Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres*. 478, 745 (1997)
- STARS: AGB AND POST-AGB**
- Detection of the Tip of the Red Giant Branch in NGC 3379 (M105) in the Leo I Group Using the *Hubble Space Telescope*. *Shoko Sakai, Barry F. Madore, Wendy L. Freedman, Tod R. Lauer, Edward A. Ajhar, & William A. Baum*. 478, 49 (1997)
- Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini*. 478, 332 (1997)
- Abundance Analyses of the Field RV Tauri Variables: EP Lyrae, DY Orionis, AR Puppis, and R Sagittae. *Guillermo Gonzalez, David L. Lambert, & Sunetra Giridhar*. 479, 427 (1997)
- Superwind Models for the Dust Shells around OH/IR Stars. *Kyung-Won Suh & Terry J. Jones*. 479, 918 (1997)
- STARS: ATMOSPHERES**
- Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein*. 478, 663 (1997)
- Magnetized Iron Atmospheres for Neutron Stars. *Mohan Rajagopal, Roger W. Romani, & M. Coleman Miller*. 479, 347 (1997)
- STARS: BINARIES: CLOSE**
- A Laboratory for Magnetized Accretion Disk Model: Ultraviolet and X-Ray Emission from Cataclysmic Variable GK Persei. *Insu Yi & Scott J. Kenyon*. 477, 379 (1997)
- X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemitsos*. 477, 424 (1997)
- Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259-63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons*. 477, 439 (1997)
- The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingming Chen, Jean H. Swank, & Ronald E. Taam*. 477, L41 (1997)
- Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels*. 478, 94 (1997)
- The Nature of the "6 Second" and Related X-Ray Pulsars: Evolutionary and Dynamical Considerations. *Pranab Ghosh, L. Angelini, & N. E. White*. 478, 713 (1997)
- Advection-dominated Accretion and Black Hole Event Horizons. *Ramesh Narayan, Michael R. Garcia, & Jeffrey E. McClintock*. 478, L79 (1997)
- The Proper Motion and Parallax of PSR J0437-4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)
- Broadband High-Energy Observations of the Superaluminous Jet Source GRO J1655-40 during an Outburst. *S. N. Zhang, K. Ebisawa, R. Sunyaev, Y. Ueda, B. A. Harmon, S. Sazonov, G. J. Fishman, H. Inoue, W. S. Paciesas, & T. Takahashi*. 479, 381 (1997)
- Results of *Ginga*/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735-444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs*. 479, 398 (1997)
- Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal*. 479, L47 (1997)
- Differential Rotation Enhanced Dissipation of Tides in the PSR J0045-7319 Binary. *Pawan Kumar & Eliot J. Quataert*. 479, L51 (1997)
- The EXOSAT Data on GX 339-4: Further Evidence for an "Intermediate" State. *Mariano Méndez & Michiel van der Klis*. 479, 926 (1997)
- Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2. *Danny T. Koh, Lars Bildsten, Deepto Chakrabarty, Robert W. Nelson, Thomas A. Prince, Brian A. Vaughan, Mark H. Finger, Robert B. Wilson, & Bradley C. Rubin*. 479, 933 (1997)
- An Unstable Central Disk in the Superaluminous Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs*. 479, L145 (1997)
- STARS: BINARIES: ECLIPSING**
- EUV Observations of EX Hydrae: 10^7 K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko*. 477, 390 (1997)
- STARS: BINARIES: GENERAL**
- The ROSAT All-Sky Survey of Active Binary Coronae. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. *Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmitt*. 478, 358 (1997)
- A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince*. 479, 388 (1997)
- STARS: BINARIES: SPECTROSCOPIC**
- Optical Observations of GRO J1655-40 in Quiescence. I. A Precise Mass for the Black Hole Primary. *Jerome A. Orosz & Charles D. Bailyn*. 477, 876 (1997)
- Eccentricity versus Mass for Low-Mass Secondaries and Planets. *Tsevi Mazeh, Michel Mayor, & David W. Latham*. 478, 367 (1997)
- Precessing Jets in Supersoft X-Ray Sources. *K. A. Southwell, M. Livio, & J. E. Pringle*. 478, L29 (1997)
- An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655-40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock*. 478, L83 (1997)
- The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. *Guillermo Torres, Robert P. Stefanik, & David W. Latham*. 479, 268 (1997)
- Photospheric Heating in Colliding-Wind Binaries. *Douglas R. Gies, William G. Bagnuolo, Jr., & Laura R. Penny*. 479, 408 (1997)
- STARS: BINARIES: VISUAL**
- Hubble Space Telescope* WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. *Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez*. 477, 705 (1997)
- The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson*. 477, 916 (1997)
- The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. *Guillermo Torres, Robert P. Stefanik, & David W. Latham*. 479, 268 (1997)
- STARS: BLUE STRAGGLERS**
- Composition Mixing during Blue Straggler Formation and Evolution. *Eric L. Sandquist, Michael Bolte, & Lars Hernquist*. 477, 335 (1997)
- STARS: CARBON**
- Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini*. 478, 332 (1997)
- Detection of HCCNC from IRC +10216. *P. D. Gensheimer*. 479, L75 (1997)
- STARS: CHROMOSPHERES**
- Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres*. 478, 745 (1997)
- Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa*. 479, 776 (1997)
- GHRs Observations of Cool, Low-Gravity Stars. III. Plasma Flows and Turbulence in the Outer Atmosphere of α Orionis (M2 lab). *Kenneth G. Carpenter & Richard D. Robinson*. 479, 970 (1997)

STARS: CIRCUMSTELLAR MATTER

- Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams.* 477, 410 (1997)
- The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie.* 477, 817 (1997)
- Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. *Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe.* 477, 825 (1997)
- The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker.* 477, 848 (1997)
- Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman.* 477, 926 (1997)
- Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tanja Liljeström & Göran Olofsson.* 478, 381 (1997)
- Adaptive Optics 0.2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves.* 478, 766 (1997)
- Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars. *A. Quirrenbach, K. S. Bjorkman, J. E. Bjorkman, C. A. Hummel, D. F. Buscher, J. T. Armstrong, D. Mozurkewich, N. M. Elias II, & B. L. Babler.* 479, 477 (1997)
- Detection of HCCNC from IRC +10216. *P. D. Gensheimer.* 479, L75 (1997)
- The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven.* 479, 845 (1997)
- Superwind Models for the Dust Shells around OH/IR Stars. *Kyung-Won Suh & Terry J. Jones.* 479, 918 (1997)

STARS: CORONAE

- The ROSAT All-Sky Survey of Active Binary Coronae. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. *Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmit.* 478, 358 (1997)
- Stellar Coronal Abundances. V. Evidence for the First Ionization Potential Effect in α Centauri. *Jeremy J. Drake, J. Martin Laming, & Kenneth G. Widing.* 478, 403 (1997)
- Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres.* 478, 745 (1997)
- A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from ASCA/EUVE Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner.* 479, 416 (1997)
- Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa.* 479, 776 (1997)
- The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak.* 479, 960 (1997)

STARS: EARLY-TYPE

- On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny.* 477, 792 (1997)
- Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts.* 478, 211 (1997)
- O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from Hubble Space Telescope Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat.* 478, 340 (1997)

Periodic X-Ray Emission from the O7 V Star θ^1 Orionis C. *Marc Gagné, Jean-Pierre Caillault, John R. Stauffer, & Jeffrey L. Linsky.* 478, L87 (1997)

Photospheric Heating in Colliding-Wind Binaries. *Douglas R. Gies, William G. Bagnuolo, Jr., & Laura R. Penny.* 479, 408 (1997)

Differential Rotation Enhanced Dissipation of Tides in the PSR J0045-7319 Binary. *Pawan Kumar & Eliot J. Quataert.* 479, L51 (1997)

Origin of the Mass in Massive Star Outflows. *E. Churchwell.* 479, L59 (1997)

STARS: EMISSION-LINE, BE

Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259-63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons.* 477, 439 (1997)

The Superaluminous Source GRS 1915+105: A High Mass X-Ray Binary? *I. F. Mirabel, R. Bandyopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodríguez.* 477, L45 (1997)

Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman.* 477, 926 (1997)

Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars. *A. Quirrenbach, K. S. Bjorkman, J. E. Bjorkman, C. A. Hummel, D. F. Buscher, J. T. Armstrong, D. Mozurkewich, N. M. Elias II, & B. L. Babler.* 479, 477 (1997)

STARS: EVOLUTION

^3He in Planetary Nebulae: A Challenge to Stellar Evolution Models. *Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla.* 477, 218 (1997)

Evolution of Helium White Dwarfs of Low and Intermediate Masses. *L. G. Althaus & O. G. Benvenuto.* 477, 313 (1997)

Composition Mixing during Blue Straggler Formation and Evolution. *Eric L. Sandquist, Michael Bolte, & Lars Hernquist.* 477, 335 (1997)

On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny.* 477, 792 (1997)

The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson.* 477, 916 (1997)

Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini.* 478, 332 (1997)

O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from Hubble Space Telescope Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat.* 478, 340 (1997)

Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi.* 479, 279 (1997)

The Age of the Oldest Globular Clusters. *M. Salaris, S. Degl'Innocenti, & A. Weiss.* 479, 665 (1997)

Integrated Near-Infrared Colors of Star Clusters: Analysis of the Stochastic Effects on the Initial Mass Function. *João F. C. Santos, Jr., & Jay A. Frogel.* 479, 764 (1997)

Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa.* 479, 776 (1997)

The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak.* 479, 960 (1997)

STARS: FORMATION

Spatial Distribution of Embedded Clusters in the Rosette Molecular Cloud: Implications for Cluster Formation. *Randy L. Phelps & Elizabeth A. Lada.* 477, 176 (1997)

Spiral Mode Saturation in Self-gravitating Disks. *Gregory Laughlin, Vladimir Korchagin, & Fred C. Adams.* 477, 410 (1997)

Ivi Stars: Formation-Stars: Individual

The Rotating Gas Toroid Surrounding the K3-50A Ionized Bipolar Outflow. *Eric M. Howard, David W. Koerner, & Judith L. Pipher.* 477, 738 (1997)

Observations of Molecular Clouds in the HH 1-2 Region. *Minho Choi & Shudong Zhou.* 477, 754 (1997)

The Chemical Evolution of the Galaxy: The Two-Infall Model. *C. Chiappini, F. Matteucci, & R. Gratton.* 477, 765 (1997)

On the Origin of Massive Eccentric Planets. *D. N. C. Lin & Shigeru Ida.* 477, 781 (1997)

Near-Infrared Spectrophotometry of HH 7-11. *Mark E. Everett.* 478, 246 (1997)

Active Star Formation toward the Ultracompact H II Regions G45.12+0.13 and G45.07+0.13. *T. R. Hunter, T. G. Phillips, & K. M. Menten.* 478, 283 (1997)

Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes.* 478, 295 (1997)

Gravitational Contraction of Rotating Clouds: Formation of Self-similarly Collapsing Disks. *Tomoaki Matsumoto, Tomoyuki Hanawa, & Fumitaka Nakamura.* 478, 569 (1997)

A 2000 M_{\odot} Rotating Molecular Disk around NGC 6334A. *Kathleen E. Kraemer, James M. Jackson, Timothy A. D. Paglione, & Alberto D. Bolatto.* 478, 614 (1997)

Origin of the Mass in Massive Star Outflows. *E. Churchwell.* 479, L59 (1997)

BIMA Observations of the VLA 1623 Molecular Outflow. *T. Yu & L. M. Chernin.* 479, L63 (1997)

Possible Infall around the Intermediate-Mass Young Stellar Object NGC 2264 IRS. *Grace A. Wolf-Chase & Erik Gregersen.* 479, L67 (1997)

H₂ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos.* 479, L71 (1997)

Constraints from ²⁶Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann.* 479, 760 (1997)

A Two-dimensional Computational Comparison of the Dynamic Interactions of Critical and Subcritical Mass Proto-Globular Cluster Clouds with the Protogalactic Background. *D. Digne.* 479, 792 (1997)

STARS: FUNDAMENTAL PARAMETERS

The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Ramage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson.* 477, 916 (1997)

Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes.* 478, 295 (1997)

Testing the Planet Hypothesis: A Search for Variability in the Spectral-Line Shapes of 51 Pegasi. *Artie P. Hatzes, William D. Cochran, & Christopher M. Johns-Krull.* 478, 374 (1997)

Radii and Distances of Cepheids. I. Method and Measurement Errors. *Martin Krockenberger, Dimitar D. Sasselov, & Robert W. Noyes.* 479, 875 (1997)

STARS: HERTZSPRUNG-RUSSELL DIAGRAM

Color-Magnitude Diagrams of Merged Globular Clusters: Metallicity Effects. *M. Catelan.* 478, L99 (1997)

STARS: HORIZONTAL-BRANCH

Color-Magnitude Diagrams of Merged Globular Clusters: Metallicity Effects. *M. Catelan.* 478, L99 (1997)

Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi.* 479, 279 (1997)

STARS: INDIVIDUAL

Constellation Name: Z Canis Majoris

Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tarja Liljeström & Göran Olofsson.* 478, 381 (1997)

Constellation Name: AO Cassiopeiae

Photospheric Heating in Colliding-Wind Binaries. *Douglas R. Gies, William G. Bagnuolo, Jr., & Laura R. Penny.* 479, 408 (1997)

Constellation Name: α Centauri A

The ⁹Be Abundances of α Centauri A and B and the Sun: Implications for Stellar Evolution and Mixing. *Jeremy R. King, Constantine P. Deliyannis, & Ann Merchant Boesgaard.* 478, 778 (1997)

Constellation Name: α Centauri

Stellar Coronal Abundances. V. Evidence for the First Ionization Potential Effect in α Centauri. *Jeremy J. Drake, J. Martin Laming, & Kenneth G. Widing.* 478, 403 (1997)

Constellation Name: α Centauri B

The ⁹Be Abundances of α Centauri A and B and the Sun: Implications for Stellar Evolution and Mixing. *Jeremy R. King, Constantine P. Deliyannis, & Ann Merchant Boesgaard.* 478, 778 (1997)

Constellation Name: Cygnus X-1

The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs.* 477, L95 (1997)

Constellation Name: V1974 Cygni

The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie.* 477, 817 (1997)

Constellation Name: 16 Cygni

The High Eccentricity of the Planet Orbiting 16 Cygni B. *Tsevi Mazeh, Yuval Krzysowski, & Gady Rosenfeld.* 477, L103 (1997)

Constellation Name: EK Draconis

A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from ASCA/EUV Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner.* 479, 416 (1997)

Constellation Name: EX Hydrae

EUV Observations of EX Hydrae: 10⁷ K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko.* 477, 390 (1997)

Constellation Name: S Muscae

The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Ramage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson.* 477, 916 (1997)

Constellation Name: α Orionis

GHRS Observations of Cool, Low-Gravity Stars. III. Plasma Flows and Turbulence in the Outer Atmosphere of α Orionis (M2 lab). *Kenneth G. Carpenter & Richard D. Robinson.* 479, 970 (1997)

Constellation Name: ζ Orionis A

Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert.* 477, 265 (1997)

Constellation Name: θ¹ Orionis C

Periodic X-Ray Emission from the O7 V Star θ¹ Orionis C. *Marc Gagné, Jean-Pierre Caillaud, John R. Stauffer, & Jeffrey L. Linsky.* 478, L87 (1997)

Constellation Name: 51 Pegasi

Testing the Planet Hypothesis: A Search for Variability in the Spectral-Line Shapes of 51 Pegasi. *Artie P. Hatzes, William D. Cochran, & Christopher M. Johns-Krull.* 478, 374 (1997)

Constellation Name: GK Persei

A Laboratory for Magnetized Accretion Disk Model: Ultraviolet and X-Ray Emission from Cataclysmic Variable GK Persei. *Insu Yi & Scott J. Kenyon.* 477, 379 (1997)

Constellation Name: ζ Tauri

Deriving the Geometry of Be Star Circumstellar Envelopes from Continuum Spectropolarimetry. I. The Case of ζ Tauri. *Kenneth Wood, K. S. Bjorkman, & J. E. Bjorkman.* 477, 926 (1997)

Constellation Name: HL Tauri

Adaptive Optics 0.2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves.* 478, 766 (1997)

Constellation Name: 70 Tauri

The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. *Guillermo Torres, Robert P. Stefanik, & David W. Latham.* 479, 268 (1997)

Henry Draper Number: HD 28497

Ultra-High-Resolution Observations of Interstellar Na I and Ca II K toward the High Galactic Latitude Star HD 28497. *J. Chris Blades,*

- M. S. Sahu, Lida He, I. A. Crawford, M. J. Barlow, & F. Diego. 478, 648 (1997)
- Henry Draper Number: HD 50896**
- An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren.* 478, 638 (1997)
- Henry Draper Number: HD 147933-4**
- Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson.* 478, 395 (1997)
- Henry Draper Number: HD 197770**
- Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson.* 478, 395 (1997)
- Henry Draper Number: HD 200775**
- Detection of CO⁺ toward the Reflection Nebula NGC 7023. *A. Fuente & J. Martín-Pintado.* 477, L107 (1997)
- Alphanumeric: 1735-444**
- Results of *Ginga*/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735-444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs.* 479, 398 (1997)
- Alphanumeric: 1E 1751+7046**
- The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak.* 479, 960 (1997)
- Alphanumeric: GRO J1655-40**
- Optical Observations of GRO J1655-40 in Quiescence. I. A Precise Mass for the Black Hole Primary. *Jerome A. Orosz & Charles D. Bailyn.* 477, 876 (1997)
- An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655-40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock.* 478, L83 (1997)
- Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655-40 during an Outburst. *S. N. Zhang, K. Ebisawa, R. Sunyaev, Y. Ueda, B. A. Harmon, S. Sazonov, G. J. Fishman, H. Inoue, W. S. Paciesas, & T. Takahashi.* 479, 381 (1997)
- Alphanumeric: GRS 1915+105**
- The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingming Chen, Jean H. Swank, & Ronald E. Taam.* 477, L41 (1997)
- The Superluminal Source GRS 1915+105: A High Mass X-Ray Binary? *I. F. Mirabel, R. Bandyopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodríguez.* 477, L45 (1997)
- Hard X-Ray Signature of Plasma Ejection in the Galactic Jet Source GRS 1915+105. *B. A. Harmon, K. J. Deal, W. S. Paciesas, S. N. Zhang, C. R. Robinson, E. Gerard, L. F. Rodríguez, & I. F. Mirabel.* 477, L85 (1997)
- An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs.* 479, L145 (1997)
- Alphanumeric: GS 1124-68**
- The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingming Chen, Jean H. Swank, & Ronald E. Taam.* 477, L41 (1997)
- Alphanumeric: GX 339-4**
- The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingming Chen, Jean H. Swank, & Ronald E. Taam.* 477, L41 (1997)
- The EXOSAT Data on GX 339-4: Further Evidence for an "Intermediate" State. *Mariano Méndez & Michiel van der Klis.* 479, 926 (1997)
- Alphanumeric: IRC +10216**
- Detection of HCCNC from IRC +10216. *P. D. Gensheimer.* 479, L75 (1997)
- Alphanumeric: SGR 1806-20**
- The Distance of the Soft Gamma Repeater SGR 1806-20. *S. Corbel, P. Wallyn, T. M. Dame, P. Durouchoux, W. A. Mahoney, O. Vilhu, & J. E. Grindlay.* 478, 624 (1997)
- Alphanumeric: 4U 1636-536**
- Discovery in 4U 1636-53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers.* 479, L141 (1997)
- Alphanumeric: X2127+119**
- X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemisios.* 477, 424 (1997)
- STARS: INTERIORS**
- ³He in Planetary Nebulae: A Challenge to Stellar Evolution Models. *Daniele Galli, Letizia Stanghellini, Monica Tosi, & Francesco Palla.* 477, 218 (1997)
- Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato.* 477, 294 (1997)
- Evolution of Helium White Dwarfs of Low and Intermediate Masses. *L. G. Althaus & O. G. Benvenuto.* 477, 313 (1997)
- Composition Mixing during Blue Straggler Formation and Evolution. *Eric L. Sandquist, Michael Bolte, & Lars Hernquist.* 477, 335 (1997)
- Second Overtone Pulsators among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf.* 477, 346 (1997)
- The Universe and Globular Clusters: An Age Conflict? *F. D'Antona, V. Caloi, & I. Mazzitelli.* 477, 519 (1997)
- Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio.* 477, 865 (1997)
- The Mass of the Classical Cepheid δ Muscae. *Erika Böhm-Vitense, Nancy Ramage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson.* 477, 916 (1997)
- Sub-Grid Scale Modeling: Correct Models and Others. *V. M. Canuto.* 478, 322 (1997)
- Evolution and Nucleosynthesis in Low-Mass Asymptotic Giant Branch Stars. I. Formation of Population I Carbon Stars. *Oscar Straniero, Alessandro Chieffi, Marco Limongi, Maurizio Busso, Roberto Gallino, & Claudio Arlandini.* 478, 332 (1997)
- Deflagration-to-Detonation Transition in Thermonuclear Supernovae. *A. M. Khokhlov, E. S. Oran, & J. C. Wheeler.* 478, 678 (1997)
- Neutrino Scattering in a Newly Born Neutron Star. *Sanjay Reddy & Madappa Prakash.* 478, 689 (1997)
- The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin.* 478, L103 (1997)
- Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi.* 479, 279 (1997)
- Low-Mass Stars and the ³He Problem. *Keith A. Olive, David N. Schramm, Sean T. Scully, & James W. Truran.* 479, 752 (1997)
- On the Rotation and Magnetic Field Evolution of Superconducting Strange Stars. *H. F. Chau.* 479, 886 (1997)
- STARS: KINEMATICS**
- The Proper Motion and Parallax of PSR J0437-4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson.* 478, L95 (1997)
- STARS: LATE-TYPE**
- The ROSAT All-Sky Survey of Active Binary Coronae. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. *Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmitt.* 478, 358 (1997)
- Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres.* 478, 745 (1997)
- The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin.* 478, L103 (1997)
- The Near-Infrared Na I Doublet Feature in M Stars. *R. P. Schiavon, B. Barbuy, S. C. F. Rossi, & A. Milone.* 479, 902 (1997)

- The Extremely Active Single Giant 1E 1751+7046 = ET Draconis: Revised Properties and a Reevaluation of Its Evolutionary Status. *Carol W. Ambruster, Francis C. Fekel, Edward F. Guinan, & Bruce J. Hrivnak.* 479, 960 (1997)
- GHRS Observations of Cool, Low-Gravity Stars. III. Plasma Flows and Turbulence in the Outer Atmosphere of α Orionis (M2 Iab). *Kenneth G. Carpenter & Richard D. Robinson.* 479, 970 (1997)
- STARS: LOW-MASS, BROWN DWARFS**
- Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchira Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa.* 479, 776 (1997)
- STARS: LUMINOSITY FUNCTION, MASS FUNCTION**
- The Intermediate-Mass Stellar Population of the Large Magellanic Cloud Cluster NGC 1818 and the Universality of the Stellar Initial Mass Function. *Deidre A. Hunter, Robert M. Light, Jon A. Holtzman, Roger Lynds, Earl J. O'Neil, Jr., & Carl J. Grillmair.* 478, 124 (1997)
- Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes.* 478, 295 (1997)
- The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity Relation. *Guillermo Torres, Robert P. Stefanik, & David W. Latham.* 479, 268 (1997)
- STARS: MAGNETIC FIELDS**
- A Laboratory for Magnetized Accretion Disk Model: Ultraviolet and X-Ray Emission from Cataclysmic Variable GK Persei. *Insu Yi & Scott J. Kenyon.* 477, 379 (1997)
- Thermonuclear Burning on the Accreting X-Ray Pulsar GRO J1744-28. *Lars Bildsten & Edward F. Brown.* 477, 897 (1997)
- A Funnel Flow Origin for CO Bandhead Emission in Young Stellar Objects. *Steven C. Martin.* 478, L33 (1997)
- Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein.* 478, 663 (1997)
- Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein.* 478, L91 (1997)
- Magnetized Iron Atmospheres for Neutron Stars. *Mohan Rajagopal, Roger W. Romani, & M. Coleman Miller.* 479, 347 (1997)
- On the Rotation and Magnetic Field Evolution of Superconducting Strange Stars. *H. F. Chau.* 479, 886 (1997)
- STARS: MASS LOSS**
- The Composition of Nova Ejecta from Multicycle Evolution Models. *Attay Kovetz & Dina Prialnik.* 477, 356 (1997)
- Hydrodynamical Models of Line-driven Accretion Disk Winds. *Nicolas Antonio Pereyra, Timothy R. Kallman, & John M. Blondin.* 477, 368 (1997)
- On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny.* 477, 792 (1997)
- O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from Hubble Space Telescope Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat.* 478, 340 (1997)
- Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benensohn, D. Q. Lamb, & R. E. Taam.* 478, 723 (1997)
- Photospheric Heating in Colliding-Wind Binaries. *Douglas R. Gies, William G. Bagnuolo, Jr., & Laura R. Penny.* 479, 408 (1997)
- Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal.* 479, L47 (1997)
- Origin of the Mass in Massive Star Outflows. *E. Churchwell.* 479, L59 (1997)
- H₂ Imaging of Sandqvist 136: Shocked Gas, Jets, and Knots. *J. L. Yun, Dan P. Clemens, M. C. Moreira, & N. C. Santos.* 479, L71 (1997)
- Superwind Models for the Dust Shells around OH/IR Stars. *Kyung-Won Suh & Terry J. Jones.* 479, 918 (1997)
- STARS: NEUTRON**
- Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato.* 477, 294 (1997)
- High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleditch, J. Kristian, & C. R. Pennypacker.* 477, 465 (1997)
- Thermonuclear Burning on the Accreting X-Ray Pulsar GRO J1744-28. *Lars Bildsten & Edward F. Brown.* 477, 897 (1997)
- A Broadband X-Ray Study of the Geminga Pulsar. *J. P. Halpern & F. Y.-H. Wang.* 477, 905 (1997)
- Cooling Neutron Stars with Accreted Envelopes. *Gilles Chabrier, Alexander Y. Potekhin, & Dmitry G. Yakovlev.* 477, L99 (1997)
- Numerical Studies of Photon Bubble Instability in a Magnetized, Radiation-dominated Atmosphere. *Juliana J. L. Hsu, Jonathan Arons, & Richard I. Klein.* 478, 663 (1997)
- Pulsed e^{\pm} Annihilation γ -Ray Line from a Crab-like Pulsar. *Tianhua Zhu & Malvin Ruderman.* 478, 701 (1997)
- Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein.* 478, L91 (1997)
- The Proper Motion and Parallax of PSR J0437-4715. *J. S. Sandhu, M. Bailes, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson.* 478, L95 (1997)
- Kicked Neutron Stars and Microlensing. *Silvia Mollerach & Esteban Roulet.* 479, 147 (1997)
- Magnetized Iron Atmospheres for Neutron Stars. *Mohan Rajagopal, Roger W. Romani, & M. Coleman Miller.* 479, 347 (1997)
- A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834-430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince.* 479, 388 (1997)
- Fast Cooling of Neutron Stars: Superfluidity versus Heating and Accreted Envelope. *Dany Page.* 479, L43 (1997)
- Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal.* 479, L47 (1997)
- Discovery of a Nonblazar Gamma-Ray Transient Source near the Galactic Plane: GRO J1838-04. *M. Tavani, R. Mukherjee, J. R. Mattox, J. Halpern, D. J. Thompson, G. Kanbach, W. Hermsen, S. N. Zhang, & R. S. Foster.* 479, L109 (1997)
- General Relativistic Effects on the Ohmic Decay of Crustal Magnetic Fields in Neutron Stars. *Sujan Sengupta.* 479, L133 (1997)
- Discovery in 4U 1636-53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijngaards, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers.* 479, L141 (1997)
- STARS: NOVAE, CATAclysmic VARIABLES**
- The Composition of Nova Ejecta from Multicycle Evolution Models. *Attay Kovetz & Dina Prialnik.* 477, 356 (1997)
- Hydrodynamical Models of Line-driven Accretion Disk Winds. *Nicolas Antonio Pereyra, Timothy R. Kallman, & John M. Blondin.* 477, 368 (1997)
- A Laboratory for Magnetized Accretion Disk Model: Ultraviolet and X-Ray Emission from Cataclysmic Variable GK Persei. *Insu Yi & Scott J. Kenyon.* 477, 379 (1997)
- EUV Observations of EX Hydrae: 10⁷ K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko.* 477, 390 (1997)
- The Temporal Evolution of the Near-Infrared Light Curves of V1974 Cygni (Nova Cygni 1992). *Charles E. Woodward, R. D. Gehrz, T. J. Jones, G. F. Lawrence, & M. F. Skrutskie.* 477, 817 (1997)
- Ultraviolet Emission-Line Ratios of Cataclysmic Variables. *Christopher W. Mauche, Y. Paul Lee, & Timothy R. Kallman.* 477, 832 (1997)
- Heating of a Star by Disk Accretion. *Robert Popham.* 478, 734 (1997)
- New Results on ²⁶Al Production in Classical Novae. *Jordi José, Margarita Hernanz, & Alain Coc.* 479, L55 (1997)
- STARS: OSCILLATIONS**
- Second Overtone Pulsations among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf.* 477, 346 (1997)
- Testing the Planet Hypothesis: A Search for Variability in the Spectral-Line Shapes of 51 Pegasi. *Artie P. Hatzes, William D. Cochran, & Christopher M. Johns-Krull.* 478, 374 (1997)

Differential Rotation Enhanced Dissipation of Tides in the PSR J0045–7319 Binary. *Pawan Kumar & Eliot J. Quataert*. 479, L51 (1997)

Radii and Distances of Cepheids. I. Method and Measurement Errors. *Martin Krockenberger, Dimitar D. Sasselov, & Robert W. Noyes*. 479, 875 (1997)

STARS: PLANETARY SYSTEMS

On the Origin of Massive Eccentric Planets. *D. N. C. Lin & Shigeru Ida*. 477, 781 (1997)

The High Eccentricity of the Planet Orbiting 16 Cygni B. *Tsevi Mazeh, Yuval Krzomolowski, & Gady Rosenfeld*. 477, L103 (1997)

Eccentricity versus Mass for Low-Mass Secondaries and Planets. *Tsevi Mazeh, Michel Mayor, & David W. Latham*. 478, 367 (1997)

Testing the Planet Hypothesis: A Search for Variability in the Spectral-Line Shapes of 51 Pegasi. *Artie P. Hatzes, William D. Cochran, & Christopher M. Johns-Krull*. 478, 374 (1997)

Distant Companions and Planets around Millisecond Pulsars. *Kriten J. Joshi & Frederic A. Rasio*. 479, 948 (1997)

STARS: POPULATION II

On the Significance of Population II ^6Li Abundances. *Martin Lemoine, David N. Schramm, James W. Thuran, & Craig J. Copi*. 478, 554 (1997)

Color-Magnitude Diagrams of Merged Globular Clusters: Metallicity Effects. *M. Catelan*. 478, L99 (1997)

STARS: PRE-MAIN-SEQUENCE

Thermal Processing of Interstellar Dust Grains in the Primitive Solar Environment. *Kenneth M. Chick & Patrick Cassen*. 477, 398 (1997)

Hubble Space Telescope WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. *Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez*. 477, 705 (1997)

Detection of CO⁺ toward the Reflection Nebula NGC 7023. *A. Fuente & J. Martín-Pintado*. 477, L107 (1997)

Comparison of Star Formation in Five Nearby Molecular Clouds. *H. Chen, T. G. Grenfell, P. C. Myers, & J. D. Hughes*. 478, 295 (1997)

Evidence for Infall toward Z Canis Majoris from Radio and Near-Infrared Spectroscopy. *Tarja Liljeström & Göran Olofsson*. 478, 381 (1997)

A Funnel Flow Origin for CO Bandhead Emission in Young Stellar Objects. *Steven C. Martin*. 478, L33 (1997)

Optical Emission in the Beam of Stellar Jets: A Possible Mechanism. *F. Bacciotti, C. Chiuderi, & A. Pouquet*. 478, 594 (1997)

New Herbig-Haro Flows in L1448 and L1455. *J. Bally, David Devine, Victoria Alten, & R. S. Sutherland*. 478, 603 (1997)

Heating of a Star by Disk Accretion. *Robert Popham*. 478, 734 (1997)

Adaptive Optics 0.2 Resolution Infrared Images of HL Tauri: Direct Images of an Active Accretion Disk around a Protostar. *Laird M. Close, François Roddier, Malcolm J. Northcott, Claude Roddier, & J. Elon Graves*. 478, 766 (1997)

Origin of the Mass in Massive Star Outflows. *E. Churchwell*. 479, L59 (1997)

STARS: PULSARS: GENERAL

Evolution of Helium White Dwarfs of Low and Intermediate Masses. *L. G. Althaus & O. G. Benvenuto*. 477, 313 (1997)

Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821–24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni*. 477, L37 (1997)

Cooling Neutron Stars with Accreted Envelopes. *Gilles Chabrier, Alexander Y. Potekhin, & Dmitry G. Yakovlev*. 477, L99 (1997)

Three Modes of Pulsar Inner Gap. *B. Zhang, G. J. Qiao, W. P. Lin, & J. L. Han*. 478, 313 (1997)

The Nature of the “6 Second” and Related X-Ray Pulsars: Evolutionary and Dynamical Considerations. *Pranab Ghosh, L. Angelini, & N. E. White*. 478, 713 (1997)

Fast Cooling of Neutron Stars: Superfluidity versus Heating and Accreted Envelope. *Dany Page*. 479, L43 (1997)

Distant Companions and Planets around Millisecond Pulsars. *Kriten J. Joshi & Frederic A. Rasio*. 479, 948 (1997)

Escaping Radio Emission from Pulsars: Possible Role of Velocity Shear. *Swadesh M. Mahajan, George Z. Machabeli, & Andria D. Rogava*. 479, L129 (1997)

STARS: PULSARS: INDIVIDUAL

Name: Crab Nebula

Pulsed e^{\pm} Annihilation γ -Ray Line from a Crab-like Pulsar. *Tianhua Zhu & Malvin Ruderman*. 478, 701 (1997)

Name: Crab Pulsar

Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein*. 478, L91 (1997)

Name: Geminga

A Broadband X-Ray Study of the Geminga Pulsar. *J. P. Halpern & F. Y.-H. Wang*. 477, 905 (1997)

Name: Vela Pulsar

Are We Seeing Magnetic Axis Reorientation in the Crab and Vela Pulsars? *Bennett Link & Richard I. Epstein*. 478, L91 (1997)

Alphanumeric: GRO J1744–28

Thermonuclear Burning on the Accreting X-Ray Pulsar GRO J1744–28. *Lars Bildsten & Edward F. Brown*. 477, 897 (1997)

Alphanumeric: GX 301–2

Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301–2. *Danny T. Koh, Lars Bildsten, Deepto Chakrabarty, Robert W. Nelson, Thomas A. Prince, Brian A. Vaughan, Mark H. Finger, Robert B. Wilson, & Bradley C. Rubin*. 479, 933 (1997)

Alphanumeric: PSR 0031–07

The Drifting Behavior of PSR 0031–07. *M. Vivekanand & B. C. Joshi*. 477, 431 (1997)

Alphanumeric: PSR 0531+21

High Time Resolution Infrared Observations of the Crab Nebula Pulsar and the Pulsar Emission Mechanism. *S. S. Eikenberry, G. G. Fazio, S. M. Ransom, J. Middleditch, J. Kristian, & C. R. Pennypacker*. 477, 465 (1997)

Alphanumeric: PSR 1257+12

Distant Companions and Planets around Millisecond Pulsars. *Kriten J. Joshi & Frederic A. Rasio*. 479, 948 (1997)

Alphanumeric: PSR 1620–26

Distant Companions and Planets around Millisecond Pulsars. *Kriten J. Joshi & Frederic A. Rasio*. 479, 948 (1997)

Alphanumeric: PSR 1951+32

RXTE Observation of PSR B1951+32. *H.-K. Chang & C. Ho*. 479, L125 (1997)

Alphanumeric: PSR B1259–63

Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259–63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons*. 477, 439 (1997)

Alphanumeric: PSR B1821–24

Detection of Magnetospheric X-Ray Pulsation from Millisecond Pulsar PSR B1821–24. *Y. Saito, N. Kawai, T. Kamae, S. Shibata, T. Dotani, & S. R. Kulkarni*. 477, L37 (1997)

Alphanumeric: PSR GS 0834–430

A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834–430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince*. 479, 388 (1997)

Alphanumeric: PSR J0045–7319

Differential Rotation Enhanced Dissipation of Tides in the PSR J0045–7319 Binary. *Pawan Kumar & Eliot J. Quataert*. 479, L51 (1997)

Alphanumeric: PSR J0437–4715

The Proper Motion and Parallax of PSR J0437–4715. *J. S. Sandhu, M. Bales, R. N. Manchester, J. Navarro, S. R. Kulkarni, & S. B. Anderson*. 478, L95 (1997)

Alphanumeric: 4U 1907+09

Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal*. 479, L47 (1997)

STARS: ROTATION

- Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato*. 477, 294 (1997)
- Differential Rotation Enhanced Dissipation of Tides in the PSR J0045-7319 Binary. *Pawan Kumar & Eliot J. Quataert*. 479, L51 (1997)
- Rotational Velocities and Chromospheric/Coronal Activity of Low-Mass Stars in the Young Open Clusters IC 2391 and IC 2602. *John R. Stauffer, Lee W. Hartmann, Charles F. Prosser, Sofia Randich, Suchitra Balachandran, Brian M. Patten, Theodore Simon, & Mark Giampapa*. 479, 776 (1997)
- On the Rotation and Magnetic Field Evolution of Superconducting Strange Stars. *H. F. Chau*. 479, 886 (1997)
- Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301-2. *Danny T. Koh, Lars Bildsten, Deepto Chakrabarty, Robert W. Nelson, Thomas A. Prince, Brian A. Vaughan, Mark H. Finger, Robert B. Wilson, & Bradley C. Rubin*. 479, 933 (1997)

STARS: STATISTICS

- Modeling the Galactic Bar Using Red Clump Giants. *K. Z. Stanek, A. Udalski, M. Szymanski, J. Karczmarek, M. Kubiak, M. Mateo, & W. Krzemiński*. 477, 163 (1997)
- Hubble Space Telescope WFPC2 Observations of the Binary Fraction among Pre-Main-Sequence Cluster Stars in Orion. *Deborah L. Padgett, Stephen E. Strom, & Andrea Ghez*. 477, 705 (1997)
- Constraints from ²⁶Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann*. 479, 760 (1997)

STARS: SUPERGIANTS

- The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin*. 478, L103 (1997)

STARS: SUPERNOVAE: GENERAL

- Deflagration-to-Detonation Transition in Thermonuclear Supernovae. *A. M. Khokhlov, E. S. Oran, & J. C. Wheeler*. 478, 678 (1997)
- High-Redshift Supernovae and the Metal-poor Halo Stars: Signatures of the First Generation of Galaxies. *Jordi Miralda-Escudé & Martin J. Rees*. 478, L57 (1997)
- Supernova-relevant Hydrodynamic Instability Experiments on the Nova Laser. *J. Kane, D. Arnett, B. A. Remington, S. G. Glendinning, J. Castor, R. Wallace, A. Rubenchik, & B. A. Fryxell*. 478, L75 (1997)
- Constraints from ²⁶Al Measurements on the Galaxy's Recent Global Star Formation Rate and Core-Collapse Supernovae Rate. *F. X. Timmes, R. Diehl, & D. H. Hartmann*. 479, 760 (1997)
- Molecules in Type Ia Supernovae. *Weihong Liu*. 479, 907 (1997)

STARS: SUPERNOVAE: INDIVIDUAL

Alphanumeric: SN 1987A

- The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamsteker*. 477, 848 (1997)
- The Asymmetric Radio Remnant of SN 1987A. *B. M. Gaensler, R. N. Manchester, L. Staveley-Smith, A. K. Tzioumis, J. E. Reynolds, & M. J. Kesteven*. 479, 845 (1997)

Alphanumeric: SN 1993J

- Instabilities and Mixing in SN 1993J. *Kohichi Iwamoto, Timothy R. Young, Naohito Nakasato, Toshikazu Shigeyama, Ken'ichi Nomoto, Izumi Hachisu, & Hideyuki Saio*. 477, 865 (1997)

STARS: VARIABLES: CEPHEIDS

- The Hubble Space Telescope Extragalactic Distance Scale Key Project. VII. The Discovery of Cepheids in the Leo I Group Galaxy NGC 3351. *John A. Graham, Randy L. Phelps, Wendy L. Freedman, Abhijit Saha, Laura Ferrarese, Peter B. Stetson, Barry F. Madore, N. A. Silbermann, Shoko Sakai, Robert C. Kennicutt, Paul Harding, Fabio Bresolin, Anne Turner, Jeremy R. Mould, Daya M. Rawson, Holland C. Ford, John G. Hoessel, Mingsheng Han, John P. Huchra, Lucas M. Macri, Shaun M. Hughes, Garth D. Illingworth, & Daniel D. Kelson*. 477, 535 (1997)
- The Mass of the Classical Cepheid S Muscae. *Erika Böhm-Vitense, Nancy Remage Evans, Kenneth Carpenter, Bernhard Beck-Winchatz, & Richard Robinson*. 477, 916 (1997)

- Radii and Distances of Cepheids. I. Method and Measurement Errors. *Martin Krockenberger, Dimitar D. Sasselov, & Robert W. Noyes*. 479, 875 (1997)

STARS: VARIABLES: δ SCUTI

- Second Overtone Pulsators among δ Scuti Stars. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, Marcella Marconi, & Robert F. Stellingwerf*. 477, 346 (1997)

STARS: VARIABLES: OTHER

Long-Period Variables

- Silicate Feature Variation in Long-Period Variable Stars. I. Initial Observations. *Michelle J. Creech-Eakman, Robert E. Stencel, W. John Williams, & Dimitri I. Klebe*. 477, 825 (1997)

RR Lyrae

- Metal-rich RR Lyrae Variables. I. The Evolutionary Scenario. *Giuseppe Bono, Filippina Caputo, Santi Cassisi, Vittorio Castellani, & Marcella Marconi*. 479, 279 (1997)

RV Tauri

- Abundance Analyses of the Field RV Tauri Variables: EP Lyrae, DY Orionis, AR Puppis, and R Sagittae. *Guillermo Gonzalez, David L. Lambert, & Sunetra Giridhar*. 479, 427 (1997)

STARS: WHITE DWARFS

- Evolution of Helium White Dwarfs of Low and Intermediate Masses. *L. G. Althaus & O. G. Benvenuto*. 477, 313 (1997)
- The Composition of Nova Ejecta from Multicycle Evolution Models. *Atay Kovetz & Dina Priahnik*. 477, 356 (1997)
- EUV Observations of EX Hydrae: 10⁷ K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko*. 477, 390 (1997)

STARS: WOLF-RAYET

- On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny*. 477, 792 (1997)
- O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from Hubble Space Telescope Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat*. 478, 340 (1997)
- An Interstellar Conduction Front within a Wolf-Rayet Ring Nebula Observed with the Goddard High Resolution Spectrograph. *Bram Boroson, Richard McCray, Christina Oelfke Clark, Jonathan Slavin, Mordecai-Mark Mac Low, You-Hua Chu, & Dave Van Buren*. 478, 638 (1997)

STARS: X-RAYS

- Fast Cooling of Neutron Stars: Superfluidity versus Heating and Accreted Envelope. *Dany Page*. 479, L43 (1997)

SUN: ABUNDANCES

- YOHKOH Observations as a Means of Checking S, Ca, and Fe Coronal Abundances and He-like Ionization Fractions. *K. J. H. Phillips & U. Feldman*. 477, 502 (1997)
- Enrichment of ³He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin*. 477, 940 (1997)
- The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotter*. 479, 458 (1997)

SUN: ACTIVITY

- A Comment on the Relationship between the Modal and Time-Distance Formulations of Local Helioseismology. *T. J. Bogdan*. 477, 475 (1997)
- Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong*. 477, 509 (1997)
- The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with Yohkoh/SXT and in the Extreme-Ultraviolet with SERTS. *Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi*. 477, 969 (1997)
- S xv Spectral Properties of an Active Region from the Yohkoh Bragg Crystal Spectrometer. *Alphonse C. Sterling*. 478, 807 (1997)

Formation of a Solar Filament Channel. *V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs.* 479, 448 (1997)

SUN: CHROMOSPHERE

Formation of a Solar Filament Channel. *V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs.* 479, 448 (1997)

SUN: CORONA

The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon. *M. Oetliker, B. Klecker, D. Hovestadt, G. M. Mason, J. E. Mazur, R. A. Leske, R. A. Mewaldt, J. B. Blake, & M. D. Looper.* 477, 495 (1997)

YOHKOH Observations as a Means of Checking S, Ca, and Fe Coronal Abundances and He-like Ionization Fractions. *K. J. H. Phillips & U. Feldman.* 477, 502 (1997)

Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong.* 477, 509 (1997)

Enrichment of ^3He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin.* 477, 940 (1997)

The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with Yohkoh/SXT and in the Extreme-Ultraviolet with SERTS. *Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi.* 477, 969 (1997)

Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara.* 478, L41 (1997)

A Nanoflare Explanation for the Heating of Coronal Loops Observed by Yohkoh. *P. J. Cargill & J. A. Klimchuk.* 478, 799 (1997)

Effects of High Ion Temperatures on Spectral Line Diagnostics in the Source Region of the High-Speed Solar Wind. *N. S. Brickhouse & R. Esser.* 479, 470 (1997)

Magnetic Reconnection by Langmuir Solitons. *X. Q. Li & Z. D. Zhang.* 479, 1028 (1997)

Electron Temperatures of the Corona above a Solar Active Region Determined from S xv Spectra. *Alphonse C. Sterling, Hugh S. Hudson, & Tetsuya Watanabe.* 479, L149 (1997)

SUN: FACULAE, PLAGES

Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados.* 478, L45 (1997)

SUN: FLARES

The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon. *M. Oetliker, B. Klecker, D. Hovestadt, G. M. Mason, J. E. Mazur, R. A. Leske, R. A. Mewaldt, J. B. Blake, & M. D. Looper.* 477, 495 (1997)

YOHKOH Observations as a Means of Checking S, Ca, and Fe Coronal Abundances and He-like Ionization Fractions. *K. J. H. Phillips & U. Feldman.* 477, 502 (1997)

Enrichment of ^3He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin.* 477, 940 (1997)

Hot and Superhot Plasmas above an Impulsive Flare Loop. *Saku Tsuneta, Satoshi Masuda, Takeo Kosugi, & Jun Sato.* 478, 787 (1997)

A Nanoflare Explanation for the Heating of Coronal Loops Observed by Yohkoh. *P. J. Cargill & J. A. Klimchuk.* 478, 799 (1997)

S xv Spectral Properties of an Active Region from the Yohkoh Bragg Crystal Spectrometer. *Alphonse C. Sterling.* 478, 807 (1997)

The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotter.* 479, 458 (1997)

Investigating the Nonthermal Velocity of Small GOES-Class Flares Observed by Yohkoh. *L. K. Harra-Murnion, K. Akita, & T. Watanabe.* 479, 464 (1997)

Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event. *H. Debrunner, J. A. Lockwood, C. Barat, R. Büttikofer, J. P. Dezalay, E. Flückiger, A. Kuznetsov, J. M. Ryan, R. Sunyaev, O. V. Terekhov, G. Trotter, & N. Vilmer.* 479, 997 (1997)

Electron Temperatures of the Corona above a Solar Active Region Determined from S xv Spectra. *Alphonse C. Sterling, Hugh S. Hudson, & Tetsuya Watanabe.* 479, L149 (1997)

SUN: FUNDAMENTAL PARAMETERS

The Hyades Binary Finsen 342 (70 Tauri): A Double-lined Spectroscopic Orbit, the Distance to the Cluster, and the Mass-Luminosity

Relation. *Guillermo Torres, Robert P. Stefanik, & David W. Latham.* 479, 268 (1997)

SUN: GENERAL

Restoration of Long-Exposure Full-Disk Solar Intensity Images. *C. G. Toner, S. M. Jefferies, & T. L. Duval, Jr.* 478, 817 (1997)

SUN: MAGNETIC FIELDS

A Comment on the Relationship between the Modal and Time-Distance Formulations of Local Helioseismology. *T. J. Bogdan.* 477, 475 (1997)

The Vector Magnetic Field, Evershed Flow, and Intensity in a Sunspot. *Donald C. H. Stanchfield II, John H. Thomas, & Bruce W. Lites.* 477, 485 (1997)

Enrichment of ^3He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin.* 477, 940 (1997)

Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara.* 478, L41 (1997)

Flux-Tube Model Atmospheres and Stokes V Zero-crossing Wavelengths. *L. R. Bellot Rubio, B. Ruiz Cobo, & M. Collados.* 478, L45 (1997)

Formation of a Solar Filament Channel. *V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs.* 479, 448 (1997)

Observations of p-Mode/s-Mode Conversion in Magnetic Fields and Absorption of p-Modes by Sunspots. *Heng Zhang.* 479, 1012 (1997)

SUN: OSCILLATIONS

A Comment on the Relationship between the Modal and Time-Distance Formulations of Local Helioseismology. *T. J. Bogdan.* 477, 475 (1997)

New Data and Models of Running Penumbra Waves in Sunspots. *Walter F. Bricken & Harold Zirin.* 478, 814 (1997)

Observations of p-Mode/s-Mode Conversion in Magnetic Fields and Absorption of p-Modes by Sunspots. *Heng Zhang.* 479, 1012 (1997)

SUN: PARTICLE EMISSION

The Ionic Charge of Solar Energetic Particles with Energies of 0.3–70 MeV per Nucleon. *M. Oetliker, B. Klecker, D. Hovestadt, G. M. Mason, J. E. Mazur, R. A. Leske, R. A. Mewaldt, J. B. Blake, & M. D. Looper.* 477, 495 (1997)

The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotter.* 479, 458 (1997)

Energetic Neutrons, Protons, and Gamma Rays during the 1990 May 24 Solar Cosmic-Ray Event. *H. Debrunner, J. A. Lockwood, C. Barat, R. Büttikofer, J. P. Dezalay, E. Flückiger, A. Kuznetsov, J. M. Ryan, R. Sunyaev, O. V. Terekhov, G. Trotter, & N. Vilmer.* 479, 997 (1997)

SUN: PROMINENCES

Formation of a Solar Filament Channel. *V. Gaizauskas, J. B. Zirker, C. Sweetland, & A. Kovacs.* 479, 448 (1997)

SUN: RADIO RADIATION

Nonthermal Radio Emission from Solar Soft X-Ray Transient Brightenings. *Dale E. Gary, Michael D. Haril, & Toshifumi Shimizu.* 477, 958 (1997)

SUN: SOLAR WIND

The Influence of Pickup, Anomalous, and Galactic Cosmic-Ray Protons on the Structure of the Heliospheric Shock: A Self-consistent Approach. *Jakobus A. le Roux & Horst Fichtner.* 477, L115 (1997)

Effects of High Ion Temperatures on Spectral Line Diagnostics in the Source Region of the High-Speed Solar Wind. *N. S. Brickhouse & R. Esser.* 479, 470 (1997)

SUN: SUNSPOTS

The Vector Magnetic Field, Evershed Flow, and Intensity in a Sunspot. *Donald C. H. Stanchfield II, John H. Thomas, & Bruce W. Lites.* 477, 485 (1997)

New Data and Models of Running Penumbra Waves in Sunspots. *Walter F. Bricken & Harold Zirin.* 478, 814 (1997)

Observations of p-Mode/s-Mode Conversion in Magnetic Fields and Absorption of p-Modes by Sunspots. *Heng Zhang.* 479, 1012 (1997)

SUN: TRANSITION REGION

Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle.* 477, L119 (1997)

SUN: UV RADIATION

Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong.* 477, 509 (1997)

The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with *Yohkoh/SXT* and in the Extreme-Ultraviolet with *SERTS*. *Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi.* 477, 969 (1997)

SUN: X-RAYS, GAMMA RAYS

YOHKOH Observations as a Means of Checking S, Ca, and Fe Coronal Abundances and He-like Ionization Fractions. *K. J. H. Phillips & U. Feldman.* 477, 502 (1997)

Investigating the Effect of Opacity in Soft X-Ray Spectral Lines Emitted by Solar Coronal Active Regions. *J. T. Schmelz, J. L. R. Saba, J. C. Chauvin, & K. T. Strong.* 477, 509 (1997)

Nonthermal Radio Emission from Solar Soft X-Ray Transient Brightenings. *Dale E. Gary, Michael D. Hartl, & Toshifumi Shimizu.* 477, 958 (1997)

The Structure and Properties of Solar Active Regions and Quiet-Sun Areas Observed in Soft X-Rays with *Yohkoh/SXT* and in the Extreme-Ultraviolet with *SERTS*. *Jeffrey W. Brosius, Joseph M. Davila, Roger J. Thomas, Julia L. R. Saba, Hirohisa Hara, & Brunella C. Monsignori-Fossi.* 477, 969 (1997)

Shrinkage of Coronal X-Ray Loops. *J. Wang, K. Shibata, N. Nitta, G. L. Slater, S. K. Savy, & Y. Ogawara.* 478, L41 (1997)

Hot and Superhot Plasmas above an Impulsive Flare Loop. *Saku Tsuneta, Satoshi Masuda, Takeo Kosugi, & Jun Sato.* 478, 787 (1997)

A Nanoflare Explanation for the Heating of Coronal Loops Observed by *Yohkoh*. *P. J. Cargill & J. A. Klimchuk.* 478, 799 (1997)

S XV Spectral Properties of an Active Region from the *Yohkoh* Bragg Crystal Spectrometer. *Alphonse C. Sterling.* 478, 807 (1997)

The Giant 1991 June 1 Flare: Evidence for Gamma-Ray Production in the Corona and Accelerated Heavy Ion Abundance Enhancements from Gamma-Ray Spectroscopy. *Reuven Ramaty, Natalie Mandzhavidze, Claude Barat, & Gerard Trotet.* 479, 458 (1997)

Investigating the Nonthermal Velocity of Small *GOES*-Class Flares Observed by *Yohkoh*. *L. K. Harra-Murnion, K. Akiti, & T. Watanabe.* 479, 464 (1997)

Electron Temperatures of the Corona above a Solar Active Region Determined from S XV Spectra. *Alphonse C. Sterling, Hugh S. Hudson, & Tetsuya Watanabe.* 479, L149 (1997)

SURVEYS

The Wide-Angle *ROSAT* Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner.* 477, 79 (1997)

Infrared Spectroscopy of Blue Dwarf Galaxies. *L. Vanzi & G. H. Rieke.* 479, 694 (1997)

TECHNIQUES: IMAGE PROCESSING

Restoration of Long-Exposure Full-Disk Solar Intensity Images. *C. G. Toner, S. M. Jefferies, & T. L. Duvall, Jr.* 478, 817 (1997)

TECHNIQUES: INTERFEROMETRIC

Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars. *A. Quirrenbach, K. S. Bjorkman, J. E. Bjorkman, C. A. Hummel, D. F. Buscher, J. T. Armstrong, D. Mozurkewich, N. M. Elias II, & B. L. Babler.* 479, 477 (1997)

BIMA Observations of the VLA 1623 Molecular Outflow. *T. Yu & L. M. Chernin.* 479, L63 (1997)

TECHNIQUES: POLARIMETRIC

Constraints on the Geometry of Circumstellar Envelopes: Optical Interferometric and Spectropolarimetric Observations of Seven Be Stars. *A. Quirrenbach, K. S. Bjorkman, J. E. Bjorkman, C. A. Hummel, D. F. Buscher, J. T. Armstrong, D. Mozurkewich, N. M. Elias II, & B. L. Babler.* 479, 477 (1997)

TURBULENCE

Turbulent Diffusion of Large-Scale Magnetic Fields in the Presence of Ambipolar Drift. *Eun-Jin Kim.* 477, 183 (1997)

Intercloud Structure in a Turbulent Fractal Interstellar Medium. *Bruce G. Elmegreen.* 477, 196 (1997)

Sub-Grid Scale Modeling: Correct Models and Others. *V. M. Canuto.* 478, 322 (1997)

The Mixing Length in Convective Stellar Envelopes Is Proportional to Distance from the Convective Boundary. *Richard B. Stothers & Chao-wen Chin.* 478, L103 (1997)

GHRS Observations of Cool, Low-Gravity Stars. III. Plasma Flows and Turbulence in the Outer Atmosphere of α Orionis (M2 Iab). *Kenneth G. Carpenter & Richard D. Robinson.* 479, 970 (1997)

ULTRAVIOLET: GALAXIES

Hubble Space Telescope Observations of the Blue Compact Dwarf SBS 0335–052: A Probable Young Galaxy. *Trinh X. Thuan, Yuri I. Izotov, & Valentin A. Lipovetsky.* 477, 661 (1997)

Ultraviolet Colors and Extinctions of H II Regions in the Whirlpool Galaxy (M51). *Jesse K. Hill, William H. Waller, Robert H. Cornett, Ralph C. Bohlin, K.-P. Cheng, Susan G. Neff, Robert W. O'Connell, Morton S. Roberts, Andrew M. Smith, P. M. N. Hintzen, Eric P. Smith, & Theodore P. Stecher.* 477, 673 (1997)

The X-Ray Warm Absorber in NGC 3516. *Smita Mathur, Belinda J. Wilkes, & Thomas Aldcroft.* 478, 182 (1997)

The Variability and Spectrum of NGC 5548 in the Extreme Ultraviolet. *H. L. Marshall, T. E. Carone, B. M. Peterson, J. Clavel, D. M. Crenshaw, K. T. Korista, G. A. Kriss, J. H. Krolik, M. A. Malkan, S. L. Morris, P. T. O'Brien, & G. A. Reichert.* 479, 222 (1997)

ULTRAVIOLET: ISM

Relative Band Oscillator Strengths for Carbon Monoxide: A $1\Pi-X\ 1\Sigma^+$ Transitions. *S. R. Federman, K. L. Menningen, Wei Lee, & J. B. Stoll.* 477, L61 (1997)

The Evolution of Ultraviolet Emission Lines from Circumstellar Material Surrounding SN 1987A. *George Sonneborn, Claes Fransson, Peter Lundqvist, Angelo Cassatella, Roberto Gilmozzi, Robert P. Kirshner, Nino Panagia, & Willem Wamstecker.* 477, 848 (1997)

Ultraviolet Interstellar Linear Polarization. III. Features. *Michael J. Wolff, Geoffrey C. Clayton, Sang-Hee Kim, P. G. Martin, & Christopher M. Anderson.* 478, 395 (1997)

ULTRAVIOLET: STARS

Molecular Hydrogen in the Direction of ζ Orionis A. *Edward B. Jenkins & Antonio Peimbert.* 477, 265 (1997)

EUV Observations of EX Hydrae: 10^7 K Gas near a White Dwarf Surface. *Mark Hurwitz, Martin Sirk, Stuart Bowyer, & Yuan-Kuen Ko.* 477, 390 (1997)

On the Evolutionary Phase and Mass Loss of the Wolf-Rayet-like Stars in R136a. *Alex de Koter, Sara R. Heap, & Ivan Hubeny.* 477, 792 (1997)

Ultraviolet Emission-Line Ratios of Cataclysmic Variables. *Christopher W. Mauche, Y. Paul Lee, & Timothy R. Kallman.* 477, 832 (1997)

Determination of the Formation Temperature of Si IV in the Solar Transition Region. *G. A. Doschek, J. T. Mariska, H. P. Warren, K. Wilhelm, P. Lemaire, T. Kucera, & U. Schühle.* 477, L119 (1997)

Boron Abundances of B Stars of the Orion Association. *Katia Cunha, David L. Lambert, Michael Lemke, Douglas R. Gies, & Lewis C. Roberts.* 478, 211 (1997)

O Stars in Transition. II. Fundamental Properties and Evolutionary Status of Ofpe/WN9 Stars from *Hubble Space Telescope* Ultraviolet Observations. *Anna Pasquali, Norbert Langer, Werner Schmutz, Claus Leitherer, Antonella Nota, Ivan Hubeny, & Antony F. J. Moffat.* 478, 340 (1997)

Stellar Coronal Abundances. V. Evidence for the First Ionization Potential Effect in α Centauri. *Jeremy J. Drake, J. Martin Laming, & Kenneth G. Widing.* 478, 403 (1997)

Evaluating Possible Heating Mechanisms Using the Transition Region Line Profiles of Late-Type Stars. *Brian E. Wood, Jeffrey L. Linsky, & Thomas R. Ayres.* 478, 745 (1997)

A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from *ASCA/EUVE* Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner.* 479, 416 (1997)

GHRS Observations of Cool, Low-Gravity Stars. III. Plasma Flows and Turbulence in the Outer Atmosphere of α Orionis (M2 Iab). *Kenneth G. Carpenter & Richard D. Robinson.* 479, 970 (1997)

WAVES

A Comment on the Relationship between the Modal and Time-Distance Formulations of Local Helioseismology. *T. J. Bogdan*. 477, 475 (1997)

Enrichment of ^3He and Heavy Ions in Impulsive Solar Flares. *Ilan Roth & Michael Temerin*. 477, 940 (1997)

New Data and Models of Running Penumbra Waves in Sunspots. *Walter F. Briske & Harold Zirin*. 478, 814 (1997)

Electron Acceleration and the Production of Nonthermal Electron Distributions in Accretion Disk Coronae. *Hui Li & James A. Miller*. 478, L67 (1997)

Escaping Radio Emission from Pulsars: Possible Role of Velocity Shear. *Swadesh M. Mahajan, George Z. Machabeli, & Andria D. Rogava*. 479, L129 (1997)

X-RAYS: BURSTS

Thermonuclear Burning on the Accreting X-Ray Pulsar GRO J1744-28. *Lars Bildsten & Edward F. Brown*. 477, 897 (1997)

Results of *Ginga*/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735-444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs*. 479, 398 (1997)

Rossi X-Ray Timing Explorer Discovery of Coherent Millisecond Pulsations during an X-Ray Burst from KS 1731-260. *Donald A. Smith, Edward H. Morgan, & Hale Bradt*. 479, L137 (1997)

X-RAYS: GALAXIES

Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies. *Alexandre Refregier, David J. Helfand, & Richard G. McMahon*. 477, 58 (1997)

The Wide-Angle ROSAT Pointed X-Ray Survey of Galaxies, Groups, and Clusters. I. Method and First Results. *C. A. Scharf, L. R. Jones, H. Ebeling, E. Perlman, M. Malkan, & G. Wegner*. 477, 79 (1997)

The Soft X-Ray Properties of a Complete Sample of Optically Selected Quasars. II. Final Results. *Ari Laor, Fabrizio Fiore, Martin Elvis, Belinda J. Wilkes, & Jonathan C. McDowell*. 477, 93 (1997)

The Iron Discrepancy in Elliptical Galaxies after ASCA. *Nobuo Arimoto, Kyoko Matsushita, Yuhri Ishimaru, Takaya Ohashi, & Alvio Renzini*. 477, 128 (1997)

A Search for the Cooling Flow Accretion Population: Optical and Near-Infrared Imaging of NGC 1275. *Andrea H. Prestwich, Marshall Joy, Christian B. Luginbuhl, Martin Sulkanen, & Mike Newberry*. 477, 144 (1997)

Scaling Laws for Advection-dominated Flows: Applications to Low-Luminosity Galactic Nuclei. *Rohan Mahadevan*. 477, 585 (1997)

ASCA Observations of Seyfert 1 Galaxies. II. Relativistic Iron K α Emission. *K. Nandra, I. M. George, R. F. Mushotzky, T. J. Turner, & T. Yaqoob*. 477, 602 (1997)

Infrared Spectroscopy of Seyfert 2 Galaxies: A Look through the Obscuring Torus? II. *Sylvain Veilleux, Robert W. Goodrich, & Gary J. Hill*. 477, 631 (1997)

Detection of Compact Nuclear X-Ray Emission in NGC 4736. *W. Cui, D. Feldkhun, & R. Braun*. 477, 693 (1997)

X-Ray Properties of the NGC 1961 Group of Galaxies. *W. D. Pence & A. H. Rois*. 478, 107 (1997)

The Complex Broadband X-Ray Spectrum of the Starburst Galaxy M82. *Edward C. Moran & Matthew D. Lehnert*. 478, 172 (1997)

The X-Ray Warm Absorber in NGC 3516. *Smita Mathur, Belinda J. Wilkes, & Thomas Aldcroft*. 478, 182 (1997)

Gravitational Lensing of the X-Ray Background by Clusters of Galaxies. *Alexandre Refregier & Abraham Loeb*. 478, 476 (1997)

ASCA and ROSAT X-Ray Spectra of High-Redshift Radio-loud Quasars. *M. Cappi, M. Matsuoka, A. Comastri, W. Brinkmann, M. Elvis, G. G. C. Palumbo, & C. Vignali*. 478, 492 (1997)

ROSAT HRI Observations of NGC 4038/4039, "The Antennae" Galaxies. *G. Fabbiano, François Schweizer, & G. Mackie*. 478, 542 (1997)

The Environmental Dependence of Brightest Cluster Galaxies: Implications for Large-Scale Flows. *Michael J. Hudson & Harald Ebeling*. 479, 621 (1997)

Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurl, Robert Antonucci, Kevin Hurley, & Alain Smette*. 479, 868 (1997)

On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol*. 479, L117 (1997)

X-RAYS: GENERAL

Detailed Analysis of the Cross-Correlation Function between the X-Ray Background and Foreground Galaxies. *Alexandre Refregier, David J. Helfand, & Richard G. McMahon*. 477, 58 (1997)

Astrophysical Extended X-Ray Absorption Fine-Structure Analysis. *Jonathan W. Woo, Robert C. Forrey, & Kyeongjae Cho*. 477, 235 (1997)

The Soft X-Ray Afterglow of Gamma-Ray Bursts, A Stringent Test for the Fireball Model. *Mario Vietri*. 478, L9 (1997)

X-Ray Transmission in Cold Matter: Nonrelativistic Corrections for Compton Scattering. *Tahir Yaqoob*. 479, 184 (1997)

The ROSAT Brightest Cluster Sample (BCS): The Cluster X-Ray Luminosity Function within $z = 0.3$. *H. Ebeling, A. C. Edge, A. C. Fabian, S. W. Allen, C. S. Crawford, & H. Böhringer*. 479, L101 (1997)

On the Evolution of X-Ray Clusters at High Redshift. *C. A. Collins, D. J. Burke, A. K. Romer, R. M. Sharples, & R. C. Nichol*. 479, L117 (1997)

X-RAYS: ISM

X-Rays from the Impact of SN 1987A with Its Circumstellar Ring. *Kazimierz J. Borkowski, John M. Blondin, & Richard McCray*. 477, 281 (1997)

X-Ray Emission from Dust in Hot Plasmas. *Kazimierz J. Borkowski & Andrew E. Szymkowiak*. 477, L49 (1997)

X-RAYS: STARS

Spin-down of Neutron Stars and Compositional Transitions in the Cold Crustal Matter. *Kei Iida & Katsuhiko Sato*. 477, 294 (1997)

X-Ray Observations of X2127+119/AC 211 in the Metal-poor Globular Cluster M15: An X-Ray Measure of Metallicity? *D. J. Christian, A. P. Smale, J. H. Swank, & P. J. Serlemitsos*. 477, 424 (1997)

Theory of High-Energy Emission from the Pulsar/Be Star System PSR 1259-63. I. Radiation Mechanisms and Interaction Geometry. *Marco Tavani & Jonathan Arons*. 477, 439 (1997)

The Pattern of Correlated X-Ray Timing and Spectral Behavior in GRS 1915+105. *Xingming Chen, Jean H. Swank, & Ronald E. Taam*. 477, L41 (1997)

The Superluminous Source GRS 1915+105: A High Mass X-Ray Binary? *I. F. Mirabel, R. Bandyopadhyay, P. A. Charles, T. Shahbaz, & L. F. Rodríguez*. 477, L45 (1997)

Optical Observations of GRO J1655-40 in Quiescence. I. A Precise Mass for the Black Hole Primary. *Jerome A. Orosz & Charles D. Bailyn*. 477, 876 (1997)

A Broadband X-Ray Study of the Geminga Pulsar. *J. P. Halpern & F. Y.-H. Wang*. 477, 905 (1997)

The 67 Hz Feature in the Black Hole Candidate GRS 1915+105 as a Possible "Diskoseismic" Mode. *Michael A. Nowak, Robert V. Wagoner, Mitchell C. Begelman, & Dana E. Lehr*. 477, L91 (1997)

The 1996 Soft State Transition of Cygnus X-1. *S. N. Zhang, W. Cui, B. A. Harmon, W. S. Paciesas, R. E. Remillard, & J. van Paradijs*. 477, L95 (1997)

Properties and Spectroscopic Implications of Thermal Instability in X-Ray Binary and AGN Accretion Flows. *Cynthia J. Hess, Steven M. Kahn, & F. B. S. Paerels*. 478, 94 (1997)

The ROSAT All-Sky Survey of Active Binary Coronae. III. Quiescent Coronal Properties for the BY Draconis-Type Binaries. *Robert C. Dempsey, Jeffrey L. Linsky, Thomas A. Fleming, & J. H. M. M. Schmitt*. 478, 358 (1997)

Precessing Jets in Supersoft X-Ray Sources. *K. A. Southwell, M. Livio, & J. E. Pringle*. 478, L29 (1997)

The Nature of the "6 Second" and Related X-Ray Pulsars: Evolutionary and Dynamical Considerations. *Pranab Ghosh, L. Angelini, & N. E. White*. 478, 713 (1997)

Hydrodynamical Studies of Wind Accretion onto Compact Objects: Two-dimensional Calculations. *J. S. Benensohn, D. Q. Lamb, & R. E. Taam*. 478, 723 (1997)

Advection-dominated Accretion and Black Hole Event Horizons. *Ramesh Narayan, Michael R. Garcia, & Jeffrey E. McClintock*. 478, L79 (1997)

An Optical Precursor to the Recent X-Ray Outburst of the Black Hole Binary GRO J1655-40. *Jerome A. Orosz, Ronald A. Remillard, Charles D. Bailyn, & Jeffrey E. McClintock*. 478, L83 (1997)

- Periodic X-Ray Emission from the O7 V Star θ^1 Orionis C. *Marc Gagné, Jean-Pierre Caillault, John R. Stauffer, & Jeffrey L. Linsky.* 478, L87 (1997)
- Broadband High-Energy Observations of the Superluminal Jet Source GRO J1655–40 during an Outburst. *S. N. Zhang, K. Ebisawa, R. Sunyaev, Y. Ueda, B. A. Harmon, S. Sazonov, G. J. Fishman, H. Inoue, W. S. Paciesas, & T. Takahashi.* 479, 381 (1997)
- A Sequence of Outbursts from the Transient X-Ray Pulsar GS 0834–430. *Colleen A. Wilson, Mark H. Finger, B. Alan Harmon, D. Matthew Scott, Robert B. Wilson, Lars Bildsten, Deepto Chakrabarty, & Thomas A. Prince.* 479, 388 (1997)
- Results of *Ginga*/ROSAT Simultaneous Observation of the X-Ray Burst Source 1735–444. *Kwang-Il Seon, Kyoung-Wook Min, Kenji Yoshida, Fumiyoshi Makino, Walter H. G. Lewin, Michiel van der Klis, & Jan van Paradijs.* 479, 398 (1997)
- A Determination of the Coronal Emission Measure Distribution in the Young Solar Analog EK Draconis from *ASCA*/EUVE Spectra. *Manuel Güdel, Edward F. Guinan, Rolf Mewe, Jelle S. Kaastra, & Stephen L. Skinner.* 479, 416 (1997)
- Dipping Activity in the X-Ray Pulsar 4U 1907+09. *J. J. M. in't Zand, T. E. Strohmayer, & A. Baykal.* 479, L47 (1997)
- Infrared Observations of the Possible X-Ray Counterpart to the 1992 May 1 Gamma-Ray Burst. *Omer Blaes, Todd Hurt, Robert Antonucci, Kevin Hurley, & Alain Smette.* 479, 868 (1997)
- The *EXOSAT* Data on GX 339–4: Further Evidence for an "Intermediate" State. *Mariano Méndez & Michiel van der Klis.* 479, 926 (1997)
- Rapid Spin-up Episodes in the Wind-fed Accreting Pulsar GX 301–2. *Danny T. Koh, Lars Bildsten, Deepto Chakrabarty, Robert W. Nelson, Thomas A. Prince, Brian A. Vaughan, Mark H. Finger, Robert B. Wilson, & Bradley C. Rubin.* 479, 933 (1997)
- Rossi X-Ray Timing Explorer* Discovery of Coherent Millisecond Pulsations during an X-Ray Burst from KS 1731–260. *Donald A. Smith, Edward H. Morgan, & Hale Bradt.* 479, L137 (1997)
- Discovery in 4U 1636–53 of Two Simultaneous Quasi-periodic Oscillations near 900 Hz and 1176 Hz. *R. A. D. Wijnands, M. van der Klis, J. van Paradijs, W. H. G. Lewin, F. K. Lamb, B. Vaughan, & E. Kuulkers.* 479, L141 (1997)
- An Unstable Central Disk in the Superluminal Black Hole X-Ray Binary GRS 1915+105. *T. Belloni, M. Méndez, A. R. King, M. van der Klis, & J. van Paradijs.* 479, L145 (1997)

